

*Indirect Speech and Language Therapy for
Individuals with Profound and Multiple
Learning Disabilities
An Ecological Perspective*



KATJA KOSKI

INDIRECT SPEECH AND LANGUAGE THERAPY FOR INDIVIDUALS WITH PROFOUND AND MULTIPLE LEARNING DISABILITIES

AN ECOLOGICAL PERSPECTIVE

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AN ECOLOGICAL PERSPECTIVE

STUDIES OF FINNISH ASSOCIATION ON INTELLECTUAL
AND DEVELOPMENTAL DISABILITIES 8

To be able to succeed in the journey to becoming a researcher is not possible without other people. I have been blessed with many wonderful individuals in these past seven years I have worked on my thesis. My family has taken such a good care of me and also my beautiful daughters Eevi and Liinu. Mom, Annikki Halonen, as an English teacher has been always there to look into my language and in the end proofreading my references. My dear Eero has taken care of the children and made me laugh after the failures in different journals' referee processes. My mother-in-law Varpu Hirvelä-Koski and father-in-law Perttu Koski had always time to discuss my academic work and gave me peer support only those with PhD behind them can. Also Eero's side of family has been very interested in my work and given me lots of support during this process. And my brother Pasi, well you just rock.

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Helsinki, June 2014

Katja Koski

INDIRECT SPEECH AND LANGUAGE THERAPY FOR INDIVIDUALS WITH PROFOUND AND MULTIPLE LEARNING DISABILITIES.

AN ECOLOGICAL PERSPECTIVE.

Katja Koski

Studies of Finnish Association on Intellectual and Developmental Disabilities 8.

Staff members' communication strategies determine how individuals with profound and multiple learning disabilities (PMLD) can more fully participate in their community. Such individuals often possess limited interaction skills and may never be able to use symbolic communication strategies. Since staff members are often the main communication partners for individuals with PMLD, achieving successful interaction situations requires that the staff members modify their interaction strategies to meet the different needs of the individuals. However, staff members often fail to do so. Thus, both observational studies and staff members themselves have concluded that communication skills are a professional competence requiring special training. Speech and language therapists (SLTs) working with individuals who have PMLD often provide their service via indirect therapy, which includes giving advice to staff members on how to improve the communication between them and their clients with PMLD. Yet despite such efforts, the staff members seldom change their communication habits. Thus, the aim of this thesis is to understand the process of indirect speech therapy. Specifically, which issues are important for staff members to learn during indirect therapy and which factors support staff members in maintaining the targeted skills.

The theoretical background of this study is based on Bronfenbrenner's Ecological Systems Theory. This theory states that the entire surrounding ecological system affects human development. The interaction between staff members and individuals with PMLD is therefore defined at the level of different sub-systems of Bronfenbrenner's theory. In the microsystem, the communicative abilities of staff members and individuals with PMLD affects how the interaction succeeds. In the exosystem, the interaction is regarded at the organisational level; the values and practices of the organisations have an effect on the interactions between the individuals and staff members. Finally, in the macrosystem, the social values and practices surrounding organisations (eg. laws, structures, philosophy) influence how the organisations provide care to their clients with PMLD and thus shape the interaction between the staff members and their clients. This study tries to

- 8 target both the microsystem and the exosystem. Therefore, the research interests are in the interactions between staff members and clients with PMLD and in the organisation which provides the framework of these interactions.

The materials of this thesis were collected from a communication partner training programme OIVA, developed by the Communication and Technology Centre of the Finnish Association on Intellectual and Developmental Disabilities. OIVA training was aimed at staff members working with individuals who have PMLD. The data were drawn from a group situation where SLTs analysed the participating staff members' interaction skills and from semi-structured interviews directed at the participating staff members. The SLTs' analyses of the staff members' interaction patterns were analysed both quantitatively and qualitatively. The staff members' interviews were analysed using qualitative methods.

This study discovered that SLTs have contrasting views about which strategies staff members should use to achieve successful interactions with their clients. Even though there might not be one single way of being a successful interaction partner, this variable can be confusing to staff members if they work with several SLTs who offer different professional advice. The participating staff members stated that they had pondered several ethical questions relating to the individuals' sense of belonging in the community and concerning their right to be understood and to understand the communications presented to them. This resulted in staff members starting to ask individuals with PMLD for their opinions about daily life and to act according to the individuals' wishes. Furthermore, the staff members in this study reported a need for more supervisory support to maintain the results of the training and to disseminate the new practices to non-trained staff. It seems that permanent change in staff members' behaviours comes depends on whether the organisation is willing to focus on the selected issues over a long period of time, perhaps for years, and whether the organisation has developed support systems to maintain the benefits of the training.

This study emphasises that indirect speech and language therapy is a complex professional task. The SLTs providing this therapy need more knowledge about the interaction strategies and the thinking habits affecting the interaction between staff members and individuals with PMLD. They also require understanding of the organisational factors which promote the staff members opportunities to participate in indirect therapy and to use and maintain the newly learnt communication skills.

Keywords: communication training, profound and multiple learning disabilities, indirect speech and language therapy

VAIKEIMMIN KEHITYSVAMMAISTEN IHMISTEN EPÄSUORA PUHETERAPIA. EKOLOGINEN NÄKÖKULMA.

Katja Koski

Kehitysvammaliiton tutkimuksia 8.

Työntekijöiden vuorovaikutustavat vaikuttavat vaikeimmin kehitysvammaisten ihmisten mahdollisuuksiin osallistua yhteisön toimintaan. Vaikeimmin kehitysvammaiset ihmiset kommunikoivat yleensä käyttäen varhaisia vuorovaikutuskeinoja. Jotkut heistä eivät opi koskaan käyttämään ja ymmärtämään symbolista kieltä. Siksi työntekijöiden on muutettava kommunikointiaan, jotta vaikeimmin kehitysvammainen ihminen voi tulla kuuluksi omassa yhteisössään. Työntekijöiden on kuitenkin usein vaikeaa muuttaa kommunikointitapojaan pysyvästi. Sekä työntekijöiden työtapoja havainnoivissa tutkimuksissa että työntekijöiltä itseltään kysyttäessä kommunikointi on noussut usein asiaksi, johon he tarvitsevat lisäkoulutusta.

Puheterapeutit jotka kuntouttavat vaikeimmin kehitysvammaisia ihmisiä toteuttavat puheterapiaa usein epäsuorien menetelmien avulla. Epäsuorassa terapiassa puheterapeutit ohjaavat työntekijöitä käyttämään uusia kommunikointikeinoja vaikeimmin kehitysvammaisten ihmisten kanssa. Epäsuora puheterapia kuitenkin harvoin muuttaa työntekijöiden kommunikointitapoja pysyvästi. Siksi tämän väitöstyön tarkoituksena on ymmärtää epäsuoraa puheterapiaprosessia. Erityisen tarkastelun alla ovat ne asiat, jotka työntekijöiden olisi hyvä oppia epäsuoran puheterapian aikana. Lisäksi tämä tutkimus tarkastelee sitä, mitkä asiat tukevat työntekijöitä käyttämään oppimiaan vuorovaikutustapoja pysyvästi.

Työn teoreettinen viitekehys perustuu Bronfenbrennerin ekologiseen teoriaan. Tämän teorian mukaan ihmisen kehitykseen vaikuttaa hänen ympärillään oleva ympäristö, ekologinen systeemi. Tässä työssä työntekijöiden ja vaikeimmin kehitysvammaisten ihmisten vuorovaikutus määritellään eri ympäristöjen eli systeemien kautta. Mikrosysteemeissä työntekijöiden ja vaikeimmin kehitysvammaisten ihmisten kohtaamiseen vaikuttaa sekä työntekijöiden että vaikeimmin kehitysvammaisten ihmisten vuorovaikutustaidot. Eksosysteemeissä työntekijöiden ja vaikeimmin kehitysvammaisten ihmisten vuorovaikutuksen onnistumiseen vaikuttaa heitä ympäröivä organisaatio. Sen arvot ja toimintakäytännöt ohjaavat työntekijän ja kehitysvammaisten ihmisten kohtaamista. Makrosysteemeissä työntekijöiden ja vaikeimmin kehitysvammaisten ihmisten kohtaamiseen vaikuttavat organisaatiota ympäröivät sosiaaliset arvot ja hoitokulttuuri (esim. lait,

10 rakenteet). Nämä tekijät ohjaavat sitä, miten organisaatiot toteuttavat vaikeimmin kehitysvammaisten ihmisten palveluja. Tämä väitöstyö pyrkii tutkimaan mikro- ja ekosysteemiä. Tämän vuoksi tutkimuksen kohteena ovat vaikeimmin kehitysvammaisten ihmisten ja työntekijöiden välinen vuorovaikutus sekä heitä ympäröivä organisaatio, joka tarjoaa vuorovaikutustilanteiden kontekstin.

Tämän tutkimuksen materiaali kerättiin Kehitysvammaliiton Tikoteekin toteuttamasta OIVA –osallisuuteen vuorovaikutusaloitteilla -hankkeesta. OIVA-hanke oli tarkoitettu työntekijöille, jotka työskentelevät vaikeimmin kehitysvammaisten ihmisten kanssa. Tutkimusmateriaali sisälsi ryhmätilanteen, jossa puheterapeutit arvioivat OIVA-hankkeeseen osallistuneiden työntekijöiden vuorovaikutustaitoja. Materiaalina oli myös työntekijöiden kanssa toteutetut puolistrukturoidut haastattelut. Puheterapeuttien ryhmätilanteessa toteutettua työntekijöiden vuorovaikutustaitojen arviointia tutkittiin sekä määrällisesti että laadullisesti. Työntekijöiden haastatteluja analysoitiin laadullisesti.

Tässä tutkimuksessa havaittiin, että puheterapeutit eivät ole samaa mieltä siitä, millaisia vuorovaikutustapoja työntekijöiden tulisi käyttää kohdatessaan vaikeimmin kehitysvammaisia ihmisiä. Vaikka onnistuneeseen vuorovaikutukseen ei ole yhtä tiettyä oikeaa tietä, tämä erimielisyys voi olla hämmentävää erityisesti, jos se johtaa puheterapeuttien työntekijöille antamien ohjeiden erilaisuuteen. Työntekijät kertoivat haastatteluissaan, että he olivat OIVA-hankkeen aikana miettineet useita eettisiä näkökulmia erityisesti liittyen vaikeimmin kehitysvammaisten ihmisten oikeuteen kuulua yhteisöön, tulla kuuluksi arjen tilanteissa sekä ymmärtää mitä heille sanotaan. Näiden pohdintojen vuoksi työntekijät olivat ryhtyneet kysymään vaikeimmin kehitysvammaisten ihmisten mielipiteitä koskien heidän omaa elämäänsä sekä toimimaan kehitysvammaisten ihmisten mielipiteiden mukaan. Työntekijät painottivat, että esimiesten tuki oli ollut tärkeää OIVA-hankkeessa saavutettujen taitojen ylläpidossa sekä näiden taitojen leviämässä myös OIVA-hankkeeseen kuulumattomien työntekijöiden työtapoihin. Vaikuttaa siis siltä, että työntekijöiden kommunikointitapojen pysyvä muutos on riippuvainen siitä, onko ympärillä oleva organisaatio valmis keskittymään uusiin työtapoihin pitkäkestoisesti, ehkä jopa vuosiksi. Lisäksi tärkeää on, että organisaatiolla on tukirakenteita, jotka auttavat työntekijöitä säilyttämään uudet työtavat.

Epäsuora puheterapia on hyvin monimuotoinen työtehtävä. Puheterapeutit, jotka toteuttavat tätä puheterapiamuotoa tarvitsevat lisää tietoa vuorovaikutustaidoista ja ajattelumalleista, jotka vaikuttavat työntekijöiden ja vaikeimmin kehitysvammaisten ihmisten kohtaamiseen. Puheterapeutit tarvitsevat myös tietoa organisaatioihin liittyvistä tekijöistä, jotka tukevat työntekijöiden osallistumista epäsuoraan puheterapiaan sekä käyttämään uusia vuorovaikutustapoja pysyvästi.

Finnish keywords: vaikeimmin kehitysvammaiset ihmiset, epäsuora puheterapia, ekologinen puheterapia, vuorovaikutuskoulutus

This thesis is based on the following articles:

I

Koski, K. & K. Launonen (2012). Assessing the communication skills of carers working with multiple learning disabilities: a case study. *International Journal of Language and Communication Disorders*, 47, 685–695.

II

Koski, K. & K. Martikainen & K. Burakoff & K. Launonen (2010). Staff members' understandings about communication with individuals who have multiple learning disabilities: A case of Finnish OIVA communication training. *Journal of Intellectual and Developmental Disability*, 35, 1–39.

III

Koski, K. & K. Martikainen & K. Burakoff & H. Vesala & K. Launonen (2014). Evaluation of the impact of supervisory support on staff experiences of training. *Tizard Learning Disability Review*, 19, 77–84.

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Wiley (I)

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The work of speech and language therapists (SLTs) includes *indirect speech and language therapy* where SLTs involve their clients' social networks in the rehabilitation process (ASHA 2002). The Social Insurance Institution of Finland (acronym KELA) defines this indirect therapy in its standard for rehabilitation by stating that:

“during speech therapy rehabilitation the SLTs support the clients' possibilities for interaction ... by modifying the clients' daily contact persons' interaction strategies” (KELA 2010, p.24).

KELA funds the rehabilitation of individuals in Finland with severe disabilities. Thus, since indirect therapy is mentioned in the standard for rehabilitation of individuals with severe disabilities (KELA 2010), it is regarded as essential part of the speech therapy intervention.

Involving the social networks of individuals with profound and multiple learning disabilities (PMLD)¹ in communication intervention is especially important: individuals with PMLD often possess limited interaction skills and may never be able to use symbolic communication strategies (Bloomberg, Johnson & West 2004). The description of “individuals or clients with PMLD” in this doctoral thesis refers to varying group of individuals each with multiple different background diagnoses (eg. autism, genetic disorders). They have extremely delayed intellectual functioning, have additional health conditions and complex disabilities (see more detailed definition in Bellamy, Croot, Bush, Berry & Smith 2010). The main unifying trait of these individuals is that they have complex communication needs. This means that they use developmentally early means of communication (eg. nonverbal communication modes, such as gestures and vocalisations), have a slow interaction pace (McLean, McLean, Brady & Etter 1991), and have difficulties understanding spoken language (Ware 2004). They even may have learnt not to engage in interaction (Foreman, Arthur-Kelly, Bennett, Neilands & Colyvas 2013). This inability to communicate makes these clients the most vulnerable individuals in our society. The individuals with PMLD are totally dependent on the communication skills of staff members on a daily basis since they need other people to interpret their thoughts in order to participate in their own community (Samuel & Pritchard 2001; Graves 2007). The aim of speech and language therapy is to advance the client's possibilities for fuller community participation (KELA 2010). Therefore, reaching this aim requires indirect therapy, thus, guiding the daily contact persons' communication skills.

The social networks of individuals with PMLD include family and staff members. This doctoral thesis focuses on the staff members, since they usually are the primary communication partners for the individuals with PMLD as they grow older (Felce 1996;

1 Hereafter, individuals with profound and multiple learning disabilities will be referred as individuals or clients.

16 Mansell, Elliot, Beadle-Brown, Ashman & MacDonald 2002). The interaction between staff members and the clients with PMLD in this doctoral thesis is seen through Bronfenbrenner's Ecological Systems Theory (1979; 1994) of inter-personal interaction and development. This theory proposes that, when explaining interactions between people, the whole ecological system surrounding them should be taken into consideration. Therefore, the interaction between the staff members and individuals with PMLD is directly and significantly affected by the practices of the organisation in which the staff members work.

Several observational studies and surveys of staff members themselves have identified communication skills as a professional competency that demands special training (eg. McVilly 1997; McConkey, Morris & Purcell 1999). Hence, several attempts have been made to improve the communication skills of staff members via specific training programs. Different staff training techniques have been widely researched (see eg. van Oorsouw, De Witte, Reichrath, Buntinx & Curfs 2009). However, even though SLTs use evidence-based training techniques when delivering indirect speech and language therapy (see eg. Maes, Lambrechts, Hostyn & Petry 2007 and van Oorsouw et al. 2009 for a review of such techniques), the newly trained staff members often fail to change their interaction practices permanently (eg. Cullen 1988; van Oorsouw et al. 2009; Bradshaw & Goldbart 2013). Therefore, it seems difficult to change the staff members functional interaction practices and thus, SLTs often view delivering indirect therapy and guiding the staff members as a complicated task (Graves 2007).

Until now the indirect speech and language therapy of individuals with PMLD has mostly been predicated on teaching staff new communication practices. However, then the question arises whether the sole emphasis on training the communication practices of the staff is enough to ensure effective communication. Ager and O'May (2001) noted that a change in staff behaviour requires a change in the staff members' *thinking habits*. This means that in addition to learning new communication strategies, the staff should have opportunity to focus on *an awareness of the assumptions* they have about the communication abilities of individuals with PMLD. Furthermore, the scholars in the field of indirect speech and language therapy seem to have neglected the fact that the values and practices of the organisation in which the clients and staff members interact affects the nature and effectiveness of those interactions. The practices of the organisation thus have an impact on how the staff members encounter their clients.

Therefore, the aim of this doctoral thesis is to explore the indirect speech and language therapy from an ecological point of view (Bronfenbrenner 1979; 1994); by examining how SLTs and staff members themselves view interaction with the individuals who have PMLD and also how the organisation surrounding affects these encounters. The materials for this study came from a communication training project implemented by the Communication and Technology Centre, Tikoteekki, of the Finnish Association on Intellectual and Developmental Disabilities (see a more detailed description of the project in Koski, Martikainen, Burakoff & Launonen 2010 and chapter 4.2. herein) aimed at staff members who work with clients who have PMLD. The results of this thesis contribute to

the previous studies concerning the delivery of indirect speech and language therapy for individuals with PMLD, especially concerning communication skill training for staff. The study presented here also follows and adds to the Finnish research base dealing with indirect speech and language therapy (eg. Launonen 1998; Rautakoski 2005; Nykänen, Nyrkkö, Nykänen, Brunou & Rautakoski 2013), and the OIVA communication training program (Vuoti, Martikainen & Burakoff 2009).

This thesis begins by reviewing the literature and looking at the interaction between staff members and their clients in the light of Bronfenbrenner's Ecological Systems Theory (1979–1994). In this review it is defined in terms of what is considered to be successful interaction between staff members and clients and how the organisation and the society surrounding the organisation affect these interactions. Additionally, different communication training programs are examined; in particular, how they have been conducted and researched. Then, the materials and methods of this study are presented. The data include interviews collected from staff members who attended a communication training program and a group situation where SLTs evaluated staff members' communication strategies. Then the analysis of both SLTs' and staff members' views about the issues which affect staff members participation to indirect speech therapy will be presented. In particular, the focus is on those communication practices and ideas which are important for the staff members to learn during the indirect therapy; and on investigating the organisational factors which support the staff members in maintaining the skills targeted. Even though these issues are multifaceted, including them all in this thesis was essential to gaining a fuller picture of the complex situations in which the SLTs work with these clients.

1.1. MICROSYSTEMS - EXOSYSTEMS - MACROSYSTEMS OF COMMUNICATION

Human development is affected by the whole ecological system in which the growth happens (Bronfenbrenner 1979; 1994). This is the main thesis of Bronfenbrenner's Ecological Systems Theory. This theory was originally formulated to describe child development and it postulates that several environmental levels affect how a child grows. These levels range from the children's daily contact persons to the entire surrounding society. The Ecological Systems theory has been applied widely to different contexts to explain human development, for example in the research concerning augmentative and alternative communication (AAC) (see eg. Launonen 2003, 2008; Granlund, Björck-Åkesson, Wilder & Ylven 2008).

The interactions between staff members and their clients occur in the organisations in which the staff members work for and to which the individuals attend to. These organisations are part of society. Hence, in order to understand the interactions between staff members and their clients, the organisational and societal factors also have to be considered (see fig. 1). Thus, this chapter explores these interactions from the ecological point of view; in the context in which they take place.

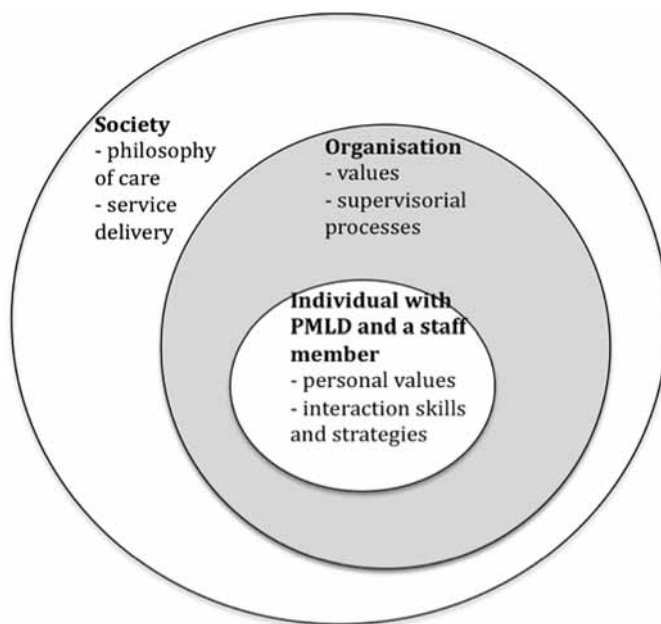


Figure 1. A model of how the society and the organisation affect the interaction between individuals with PMLD and staff members based on Bronfenbrenner's Ecological Systems Theory.

1.1.1. Microsystem of communication: interaction between staff members and individuals with PMLD

The interaction between the individuals with PMLD and the staff members can be examined through the most inner layer of Bronfenbrenner's theory (1979; 1994) – the microsystem.

Successful and skilful communication

Communication has many different definitions and it is used in different connections for different reasons. In this study communication and interaction will be used as synonyms even though the dictionary definition of these terms vary somewhat. The study represented here studies human communication and interaction especially in the field of speech and language therapy. The research concerning speech and language therapy, or as it is referred to in Finland "logopedics", studies the basic functions and disorders of speech, language, and communication, and their rehabilitation (Lehtihalmes & Klippi 1993). One of the theories shaping the research in speech and language therapy has been the linguistic approach. This approach was mainly interested in speech acts and linguistic behaviour (such as grammar) (Chomsky 1965). However, the linguistic approach did

not consider the usage of language and this inspired other researchers to concentrate on the pragmatics of language – how the context affects the interaction (Prutting & Kirchner 1987).

One of the definitions of communication in the field of speech and language therapy is the model of information-processing (eg. Shannon & Weaver 1949; Scramm 1954). In this model communication is seen as a transfer of information by non-verbal or verbal methods. However, criticism of the information-processing model argued that communication is much more complex issue than only sending and receiving messages (see eg. Gerbner 1956). Communication is always a matter of negotiation and cannot be predicated in advance (Gerbner 1956; Barnlund 1970). It is therefore transactional where both partners send and receive messages and where both are linked reciprocally. Therefore, today the matter of communication in the field of speech and language therapy is approached from a dialogical perspective (see further review in Hostyn, Daelman, Janssen & Maes 2010) where communication is seen as a joint endeavour. The interaction partners simultaneously engage in a process of meaning-making; thus the meaning is created together and is not owned by one person alone (Arnett 1986). This dialogical approach has been embraced by different authors, and it has created different theories such as Habermas' theory of communicative action (1984) and Bahtin's dialogic communication theory (further refined by Shotter 1993; 1998), and research traditions such as conversational analysis (Sacks, Schegloff & Jefferson 1974). Furthermore, in the dialogical theory the process of meaning-making is rewarding in itself (Olsson 2004). Communication creates emotions between individuals, and therefore Bowlby's (see 1969; 1973; 1980) and Ainsworth's attachment theory (see eg. Ainsworth, Bell & Stayton 1974) which deals with the interaction between infants and their carers can also be seen as part of this dialogical model.

Therefore, in this study *communication* is understood as “any act by which one person gives to or receives from another person information about that person's needs, desires, perceptions, knowledge or affective states. Communication may be intentional or unintentional, may involve conventional or unconventional signals, may take linguistic or nonlinguistic forms, and may occur through spoken or other modes”. (National Joint Committee for the Communicative Needs of Persons with Severe Disabilities 1992, p. 2). Furthermore, communication in this study is seen as dialogical: it is not merely transferring information. This definition of communication has also pragmatic roots, the context affects what happens in a specific situation. However, this definition does not include criteria for what it means to communicate successfully and skilfully.

Both the terms “successful” and “skilful” have been selected for this study. The term *skilful* refers to the interaction partners of the individuals with PMLD: they might not always be successful in establishing connection, but the staff member can still be a skilful communication partner. The term “success” is seen as the aim of the interactions between staff members and individuals with PMLD. The staff members aim for pleasurable and enjoyable interaction situations – ones that are successful. Hereafter, these two terms will be used in close association. The definition of successful communication and skil-

ful interaction partner in this current study has been influenced by Habermas' theory of communicative action (1984), Bahtin's dialogic communication theory (further refined by Shotter 1993; 1998), and Bowlby's (see 1969 1973 1980) and Ainsworth's attachment theory (see eg. Ainsworth et al. 1974). The definition also draws on research exploring interactions between people with intellectual disabilities and their communication partners (eg. McNaughton & Light 1989; McConkey et al 1999; Bradshaw 2001; Koski et al. 2010). Furthermore, this definition is seen as similar to Habermas' theory (1984) which continually undertakes a quest for improvement. Thus, it is not a definition of the best communication in the current context, but rather an ideal that can never be reached, but gives a starting point to aim for. This is because interactions between staff and clients are unique, and thus interaction strategies used in one context might not result in successful communication in other situations or with other staff-client interaction pairs (eg. Purcell, McConkey & Morris 2000).

In successful communication, the interaction partners try to establish a mutual understanding about the topics or needs they are discussing (Habermas 1984). Thus, they both attend to matters of mutual concern and try to work toward a shared meaning. Mutual understanding requires negotiation by which the communication partners verify, rephrase, and question each other's communication acts (Shotter 1993; 1998). However, negotiation can only occur if the partners both use communication acts the other can understand. The communication of both partners depends on an interaction style that is sensitive to the other. Such sensitivity is also important in attachment theory (Bowlby 1969 1973 1980; Ainsworth et al. 1974); it means that one is able to perceive the communication partner's signals accurately and to respond to them promptly, contingently, and appropriately. Therefore, communication partners who use a *sensitive* interaction style wait for each other's communication attempts before responding, thus making the interaction reciprocal (Hostyn & Maes 2009). The partners give each other opportunities for influencing the situation and for initiating other topics (McNaughton & Light 1989; Hostyn & Maes, 2009), and they pay attention to the other person's interests and comment upon them (Prior, Minnes, Coyne, Golding, Hendy & McGillivray 1979; Mirenda & Donnellan 1986; Pine 1992). These interaction strategies make a skilful communication partner's communication style *facilitative*. Both sensitive and facilitative interaction styles require that communication partners accept the other person's ideas as being that person's true intentions and that, thus, these ideas are worth listening and responding to (Habermas 1984; see also discussion in von Tetzchner & Jensen 1999). These interaction styles also promote emotional bond between the individual and the staff members. Then, also feelings of joy, satisfaction and connection are present during the interaction (Hostyn & Maes 2009). It is important, then, that both of the partners want to interact effectively.

Staff members and individuals with PMLD typically face challenges when they try to communicate. The individuals are often slow with their initiations and responses and they have difficulty changing focus from one situation to another (see, eg. Nafstad & Roedbroe 1999; Wilder, Axelsson & Granlund 2004). Staff members can thus mistak-

only conclude that such individuals are not initiating or are not responding to the staff members' initiations. They might even think that the individual cannot communicate, thus that it is not important to try to establish any connection (Bigby, Clement, Mansell & Beadle-Brown 2009). Furthermore, the initiations of such clients can seem incoherent (Porter, Ouvry, Morgan & Downs 2001), and may use only non-verbal signals. Hence, staff members may not recognise such attempts as initiations and therefore do not respond to them (McConkey et al. 1999).

As a result of such typical problems, staff members may avoid communication situations altogether; or they may feel that they must draw the other party into communication by initiating interactions. Consequently, they can initiate excessively, resulting in a *dominative* rather than *sensitive* interactive style (McConkey et al. 1999). Furthermore, staff members can also try to direct attention to something *they* are interested in, an initiation that leads to a *directive* rather than a *facilitative* communication style. All these interaction strategies hinder the client's possibility to take the lead in the interaction. If the clients experience only dominative and directive interactions, they can learn that their interests and emotions are unimportant and, hence, they may stop initiating communication (Basil 1992; Foreman et al. 2013). This complicates communication even more.

The ability to use negotiation for achieving mutual understanding also typically faces a problem: staff members and their clients do not share the same degree of language competence. The clients may use non-verbal communication acts such as gestures and vocalisations that can be vague (Porter et al. 2001). Hence, staff members try to interpret what is meant by such acts and the possibilities for mutual understanding are further complicated (von Tetzchner & Jensen 1999; Hostyn & Maes 2009). Staff members usually communicate verbally (i.e., not via non-verbal acts) and such verbal attempts can be difficult for these clients to understand (Bradshaw 2001; Healy & Noonan Walsh 2007). They may also have additional disabilities, such as sensory impairments which further hinder their possibility to understand language (Grove, Bunning, Porter & Morgan 2000). Therefore, several studies have concluded that staff members should be taught to evaluate the level of verbal understanding of individuals with multiple learning disorders and, if necessary, to adjust their own level of verbal expression to meet the individuals' abilities (McConkey et al. 1999; Porter et al. 2001; Bradshaw 2001).

1.1.2. Exosystem of communication: staff member's interactions are influenced by their organisations

Staff members interact with their clients as members of a certain organisation (Borgman, 1998). The particular organisation provides the institutional framework of daily interactions. This creates the middle layer of Bronfenbrenner's (1979; 1994) theory – the *exosystem*. However, Hile and Walbran (1991) noted that staff members spend the majority of their workday engaged in supervision or in their own leisure activities and not interacting with the clients.

Several studies have investigated factors which increase conversations between staff members and their clients. Mansell, Beadle-Brown, Whelton, Beckett and Hutchinson (2008) suggest four factors that affect care practices: setting characteristics, staffing, organisational hygiene, and management. Setting characteristics include the type of service and its size. Staffing means the ratio of staff to residents, staff qualifications, experience, training, knowledge, attitudes and turnover. Organisational hygiene entails job satisfaction, stress, role clarity, and conflict. Finally, management involves the autonomy of managers and systems for organising care. These combined factors predict effective practice. However, staff attitudes and those of supervisors also need to be considered.

The staff members' attitudes have the greatest impact on how their clients can participate in the society (Henry, Duvdevany, Keys & Balcazar 2004; Verdonshot, De Witte, Reichrath, Buntinx & Curfs 2009). Dennis (2002) found that staff members who appear to have a highly functional communication relationship with PMLD individuals stress that communication practices are not enough; thinking habits strongly influence staff members' practices. Staff members who believe that individuals possess communication skills interact very differently than those who do not believe that such individuals are able to communicate. Bigby et al. (2009) noted that staff members' attitudes towards their clients are usually positive and align with the values the organisation holds. However, the staff members felt unable to apply those values to people who have PMLD since those individuals cannot communicate their wishes. Therefore, staff members need real-life examples of how to express the organisational values during their workday.

Several supervisory procedures affect how staff members encounter their clients (Mascha 2007). Those supervisors that inform the staff members about the plans of the organisation and issues regarding the staff members' daily work actually contribute to the positive interactions between staff members and their clients (Mansell et al. 2008). Also supervisory feedback affects staff members' behaviour. Staff members receive consequences mostly from their administrative tasks (Mansell & Elliot 2001). Furthermore, McConkey & Collins (2010) noted that staff members prioritize care tasks over social inclusion tasks. Therefore, supervisors' feedback on which tasks should the staff members prioritise affects the client-staff member interactions (Cullen 1992). This also contributes to the staff members' role clarity. When supervisors articulate clearly what is expected from staff during the workday, the staff members' level of stress decreases (Hatton, Emerson, Rivers, Mason, Swarbrick, Mason, Kiernan, Reeves & Alborz 2001).

1.1.3. The macrosystem of communication: from a medical model of disability to community based rehabilitation – changes in the philosophy of care

Organisations that provide services for individuals with PMLD follow values set by the Finnish government's disability policies. These values guide the jurisdiction processes that consequently affect how the organisations produce their services. Therefore, the society in which an organisation exists and operates affects how the staff members need to

behave. This is the outer layer of the Bronfenbrenner's (1979; 1994) Ecological Systems Theory – the macrosystem.

The Finnish Disability Policy Programme (Ministry of Social Affairs and Health 2010) emphasises human rights, non-discrimination, equality, and inclusion. The programme states that everyone has the right to participate in their community as a full member. This view stems from the United Nations Convention on the Rights of Persons with Disabilities and from the first Finnish national Report on Disability Policy given by the Government to Parliament in 2006.

The movement towards human rights based disability policies originates from the changes in the philosophy of care. After the Second World War, the UN founded Social Commission led to a modern rehabilitation paradigm of care (Saloviita 2007). The aim was to rehabilitate individuals with disabilities so they could participate in the society. However, this paradigm relied on a medical environment and the authority of professionals. Consequently, the individuals with disabilities were taken to separate institutions to be rehabilitated.

In the 1960s three authors, Bank-Mikkelsen (1969), Nirje (1969) and Wolfensberger (1972), started to talk about *normalisation* when discussing how individuals with disabilities should be part of the society. Such normalisation meant that if the individuals with disabilities lived a normal life among other people, the attitudes towards them would also be normal. The UN took normalisation as part of their declaration of rights of individuals with disabilities (United Nations 1971). Furthermore, in the 1983 the disabled academic Mike Oliver formulated the term “social model of disability” which was a reaction to the dominant *medical model of disability*. The medical model of disability had viewed disability as a deficit of an individual. However, the social model of disability saw that systemic barriers, negative attitudes, and exclusion by society were disabling people more than the impairments themselves (Oliver 1983).

At the start of 1980, Finland experienced the first criticism towards the care of the individuals with learning disabilities (Vesala 2003). Until that time such individuals had often been transferred to institutions away from the society. However, The Finnish Association on Intellectual and Developmental Disabilities (Finnish Association on Mental Retardation until 2007) and Ministry of Social and Health Affairs wrote several papers which demanded community integration for individuals with learning disabilities. This criticism led to a process which in the 1990s started a structural change in the care of individuals with learning disabilities. Instead of living in big institutions, the individuals are transferred to live in smaller housing units located in their own cities. This process is still under way.

At the same time as the movement in disability policies towards human rights, the WHO also started to question the medical model of rehabilitation. The new service paradigm started to evolve in 1970 and its aim was to decrease the power of the professionals who were rehabilitating the individuals with disabilities (Saloviita 2007). Until that time the professionals mainly decided which kind of support the individuals with disabilities would receive. However, the aim of the new service paradigm was that the individuals

24 with disabilities and their daily contact persons choose their own support systems. This service paradigm was named *community based rehabilitation* (CBR). CBR was first a method of increasing disability and rehabilitation services in developing nations (Lagerkvist 1992). In developing countries rehabilitation services were unavailable for most of the population due to a lack of professionals. Thus, in CBR the professionals provided tools for the members of the community to include the individuals with disabilities in the community's daily functioning. At the start of 1980s interest groups supporting individuals with physical disabilities took CBR as the model for all disability policies (Saloviita 2007). The main aim was to ensure the civil rights of everyone. Thus, individuals do not need rehabilitation to take part in the community. Community's support overcomes the individuals' hindrances.

Change in speech and language therapy practices - from direct to indirect approach

In the field of speech and language therapy the medical model of disability has dominated therapy practices (Lesser & Perkins 1999). This model is usually referred to as "traditional speech therapy" (Tykkyläinen 2005) or "direct speech therapy" (ASHA 2002; Graves 2007). During direct therapy the SLT firstly tries to understand the individuals' language deficits and then rehabilitate them. Therapy is usually provided in rehabilitation institutions or in hospitals. For the most part, only the individual with language deficits and the SLT participate in the therapy process.

However, 1980s saw the rise of a pragmatic view of speech and language therapy. The pragmatic view focused on how the deficits in the clients' linguistic abilities affected their daily interactions (Lesser & Perkins 1999). Therefore, in pragmatic therapy communication is seen as a process between the interaction partners and both partners have an effect on how the interaction flows: any problem with an interaction rests with both of the communication partners. Therefore, the rehabilitation aims to give both communication partners – the clients with communication needs and their daily interaction partners – strategies for communicating more efficiently. At the same time as the onset of the pragmatic approach, SLTs also noted that non-verbal means of communication are important for conversations and that these means were more effective than spoken language for the people with little or no speech at all. Therefore, SLTs started to use augmentative and alternative communication (AAC) strategies (such as gestures, manual key word signs, pictures and drawings) in their therapy practices (Launonen & Lehtihalmes 2001). Since these alternative means were something that could be applied with individuals who has no spoken language, and individuals with complex communication needs could be included in the rehabilitation services. Until that time speech and language therapy was not considered to benefit such individuals to a large extent.

In addition to pragmatic speech therapy, the International Classification of Impairments, Disorders and Handicaps (World Health Organisation WHO, 1980) has changed speech and language therapy processes (Klippi 1996). This classification viewed health and health-related domains in three levels: impairment, disability and handicap. How-

ever, the main focus of this classification was still on the physical disablement and it viewed health from the perspective of individuals and not that of the community. Therefore, it was later redeveloped into the International Classification of Functioning, Disability and Health (ICF) (World Health Organisation WHO 2001) and it tries to take into consideration how health and the societal factors affect an individual's ability to participate in a community. ICF (2001) is today used widely when researching speech and language therapy services both internationally (see eg. Simmons-Mackie, Raymer, Armstrong, Holland & Cherney, 2010; Simeonsson, Björk-Åkesson & Lollar 2012) and in Finnish health care context (see eg. Rautakoski 2005; Jeglinsky 2012). Therefore, also the Social Insurance Institution of Finland (KELA) which funds the rehabilitation services of persons with severe disabilities also uses ICF as the theoretical background for the standard of rehabilitation (KELA 2010). The aim of speech therapy rehabilitation is thus directed to those processes that integrate individuals within their communities.

Belonging to a community requires that other members of that community are prepared to include every member in its daily functioning (Ferguson 1994). Therefore, in Finland especially speech and language therapists have started to use the ideology of *community based rehabilitation* when delivering speech and language services which target the clients' social networks (parents, friends, caregivers, staff members) rather than the individuals themselves (Hildén, Merikoski & Launonen 2001). In CBR the entire community attempts to determine how each member can participate successfully in the life of the community (International Labour Organization, United Nations Educational, Scientific and Cultural Organization, and the World Health Organization 2004; see also World Health Organization 2004). Thus, the aim is that the members of the community use interaction strategies that help the individuals to participate in the community's daily life. The development of these speech and language therapy practices has only begun in recent years. Research concerning this therapy approach is needed to find those evidence-based practices which truly benefit both the community and the individuals.

1.1.4. Summary

This chapter has explored three nested systems, all of which affect interactions between individuals with PMLD and staff members (Bronfenbrenner 1979; 1994). In the microsystem – the interaction between the individuals with PMLD and the staff members – staff members' ability to act as skilful interaction partners ensures a symmetric dialogue between them and the individuals with PMLD (Hostyn et al. 2010). Furthermore, the exosystem – the organisation and the supervisors – affects how the staff members see their position as interaction partners for their clients. Supervisors have the power to reward behaviour which aims for successful interactions between staff members and their clients (Mansell & Elliot 2001). Finally, the mesosystem – the societal values surrounding the organisation the clients attend to and that the staff members work at – influences the way staff members and their clients interact. Today, the philosophy of care recognises the influence of the society on the problems faced by individuals with PMLD. The aim

26 of disability policies is to enable individuals to participate in their communities as full members, and the speech and language therapy practices aim at have this as their goal.

1.2. GUIDING STAFF MEMBERS TO SUCCESSFUL COMMUNICATION – SLTS PROVIDING INDIRECT SPEECH AND LANGUAGE THERAPY

One of the aims of speech and language therapy is to provide successful interaction strategies to staff members working with the individuals who have PMLD. This is done to both advance the communication skills and communication participation of individuals with PMLD. Several different terms can be used to describe this therapeutic approach. As discussed earlier, it has been described as *pragmatic (or communication) therapy* (see eg. Pajo 2013; Klippi 2005). Authors coming from a school context have used the term *collaboration* or *consultation* (Cirrin, Schooling, Neslon, Diehl, Flynn, Statowski, Torrey & Adamczyk 2010). Finnish SLTs often refer to *CBR or ecological therapy* (Community based rehabilitation: Hildèn et al. 2001). This approach to therapy can also be called *communication training* for staff. This thesis uses the term *indirect speech and language therapy* (ASHA 2002). This term was selected since the aim is not only to collaborate or consult with the staff members or to teach them communication skills. Additionally, community based rehabilitation seemed to be too broad a concept, and it is also unfamiliar to the international audience when used in the context of PMLD. The terms *pragmatic* or *communication* therapy have mostly been used in the context which applies conversation analysis for the basis of rehabilitation (Pajo 2013), and the practices used by SLTs providing this therapy approach seldom include conversational analysis.

What is known today about indirect therapy in the field of learning disabilities has come mostly from different communication training programmes aimed at staff members. Table 1 presents an overview of some these programs. This table is not an exhaustive account of all communication training programs researched in the recent years, but gives an overview of those aspects that the previous research has concentrated on. The next chapter will explore in detail the execution and research concerning these training programs.

1.2.1. The contents, techniques and research of communication training programs

The contents of different training programs presented in Table 1 seem to generally rely on observational studies of how staff members interact with their clients (eg. McConkey et al. 1999). The training programs had then taught the staff members to use successful interaction strategies, those specified in the previous observational studies. These strategies include, for example, being patient, being more responsive to individuals' communication acts and modifying the staff members' own communication acts to meet the individuals' abilities (eg. Money 1997; Purcell et al. 2000; Chadwick & Joliffe 2009).

Table 1. An overview of communication training programs aimed at staff members working with clients with PMLD

Author(s), year of publication, type of study	Participants	Training method/ How supervisors were involved	Study methods	Main results
McNaughton & Light, 1989, case study measuring staff members' interaction skills in the baseline and post training	1 client with multiple learning disabilities 10 staff members from clients' group home 15 staff members from clients' day program From these staff members 2 primary participants were responsible for sharing the new communication strategies to other staff	general in-service for all staff primary participants took part in assessing the client and setting goals for her individual instruction for primary participants follow-up instructional session for all 25 staff members in total, a 14 month period supervisors monitored the implementation of the program by the primary participants	natural observation of food preparation activity before and after the training two main elements observed: 1) opportunities for communication provided by staff member 2) Requests communicated by the client	staff members (the study did not specify if these were the primary staff members or all the staff members) provided more opportunities to communicate the client was assuming more active role
Light, Dattilo, English, Gutierrez & Hartz 1992, single-subject design, measuring staff members' interaction skills in the baseline, during and post-training, -charting the social validity of training	2 clients with severe motor and speech impairments 3 staff members	4 individual instruction sessions for each participation with the client within the daily routine to ensure generalization of the strategies to natural environment no mention of the duration of training one of the participants was a supervisor	three videos: baseline, intervention and maintenance probes after intervention frequency calculations of communication turns, initiations and responses were made from transcriptions from videos social validation: two graduate and undergraduate students compared pre- and post-interactions and determined which interaction provided opportunities for AAC use and contained more reciprocity 2) participants' were interviewed about the meaningfulness of the training	greater reciprocity in the turn-taking and initiation patterns staff members felt that clients participated more frequently and shared more information after intervention

Golden & Reese, 1996, measuring staff members' interaction skills in the baseline and post-training comparing trained and non-trained groups, charting the social validity of training	16 clients with multiple and profound learning disabilities and 16 staff members from a large residential facility 8 clients with multiple and profound learning disabilities and 8 staff members from a community-based residential facility - facilities were combined and assigned to trained and non-trained groups	staff members were taught to use Mental Retardation/Developmental Disabilities Adapted Nursing Child Assessment Feeding Scale to observe and rate specific aspects of interactions between other direct-care staff and clients 12 month period - no mention of whether supervisors were involved	natural observation of natural settings: baseline, treatment and follow up measurements of staff members behaviours: instruction, positive verbal attention, positive non-verbal attention & neutral attention clients' behaviours: social engagement, object engagement, non-compliance, self-stimulation - staff filled out a questionnaire about how satisfied they were with the training	some positive effects on trained staff no effects for clients staff were very satisfied with the training
Money, 1997, evaluating three approaches by measuring staff members' interaction skills in the baseline and post-training	36 staff members and clients with complex communication needs in pairs staff members were assigned to three random groups	Direct approach: 6 individual therapy sessions over 4 month period, one every three weeks Teaching approach: staff members attended Talkabout course including 5 training sessions Combination approach: both the above course and individual therapy sessions aim of all approaches was to maximise the clients' means, reasons and/or opportunities for communication no mention of whether supervisors were involved	videos of natural settings analysis of: 1) initiations 2) responses 3) modality of communication (non-verbal and verbal means)	combination approach demonstrated statistically significant differences post-intervention

<p>Purcell, McConkey & Morris, 2000, measuring staff members' interaction skills in the baseline and post-training charting the social validity of training</p>	<p>25 staff members and 25 clients with learning disabilities</p>	<p>12 staff attended two whole day meetings 12 staff on-to-one sessions in their workplace with a SLT both training focused on staff needing to define and identify modes of communication, staff becoming more conscious of their use or non-use of various communication acts, staff switching their communication strategies according to the needs of the client no mention of if supervisors were involved</p>	<p>two video-recordings made before and after training 3 months apart frequency counts of selected staff and client behaviours were made from the recordings staff and SLTs completed a feedback questionnaire</p>	<p>some positive results changes were restricted to shared activity sessions rather than social chatting sessions changes more notable for clients with more linguistic capabilities no differences between the two approaches staff reported some benefits of the training, but no consensus on any one topic</p>
<p>Dobson, Upadhyaya & Stanley 2002, measuring staff members' interaction skills in the baseline, post-training and in the follow-up phase -staff members self-evaluation of what they had learned</p>	<p>9 staff members, responsible for supporting 20 adults with learning disabilities</p>	<p>clinical psychologist provided initial training on metacognition and concepts of learning disability and the use of functional analysis of behaviour staff members identified an communication goal with SLT for one of their clients workshops where the staff members viewed videos of their communications with their clients, aiming to foster staff's existing communication skills and increase the frequency of their use 6-month weekly training programme timetable for the training was negotiated with the supervisors</p>	<p>two video-recordings made in the baseline, in the middle of the training and in the follow-up phase analysis of videos was made of staff's use of language, amount of language and style of interaction staff members made self-evaluations of their perceptions, changes in working practices and achievement of their own goals</p>	<p>some changes in staffs interaction styles</p>

Bloomberg, West & Iacono, 2003, measuring staff members' interaction skills in the baseline and post-training -measuring staff knowledge about issues related to communication	16 staff members working in eight pairs focusing on one client with multiple disabilities per pair	PICTURE IT training package collaborative problem-solving approach where the current communication skill of the individual was the focus and the aim was to increase the frequency of existing communication skills staff members were taught to analyse videos of their communications with their clients 6 months training, 1 day per month no mention of whether supervisors were involved	staff filled out knowledge and perceptions of communication skills evaluation form pre- and post-training video-samples were taken pre- and post-training and were analysed in terms of communicative functions staff filled out early communication skills profile of their clients pre- and post-training staff filled out a survey of the physical and social environment of the client before, during and after the project	some changes in staff's interaction styles and the staff's knowledge about early communication skills and AAC
Firth, Elford, Leeming & Crabbe, 2008, the social validity of training prior to and post -training	29 staff members from four different group homes	Intensive Interactive training course 6 month supported implementation period with a trainer visiting the staff members once per week supervisors identified the trained staff members a few of the participating staff members were supervisors	all staff members completed semi-structured interviews prior and after the training interviews analysed using grounded theory	varying levels of acceptance by staff of the practice changes required to implement intensive interaction staff reported differing levels of success in implementing new practices

Totsika, Toogood, Hastings & Nash, 2008, the social validity of training	58 staff members working in 10 different community homes	active support interactive training group workshops where aim is to train staff to improve the quality of moment-to-moment interactions with clients training included role play and verbal instruction when staff member was interacting with a client duration 5 months supervisors were invited to participate in the training sessions	58 staff members completed a feedback questionnaire at the end of the training 37 staff members participating in training were interviewed 8 months after the training interview was analysed with content analysis	staff felt that training had been a positive experience one-to-one coaching was considered especially fruitful most of the staff felt they were still using techniques learned during training problems with maintaining the results were related to lack of managerial support and input for training, residents' challenging behaviours and the lack of adequate staff numbers working in each house
Chadwick & Joliffe, 2009, measuring staff members' signing skills in post-training and comparing trained and non-trained groups,	30 trained staff members and 30 untrained staff members came from different community homes	trained staff supporting adults with intellectual disabilities in the use of 20 manual key word signs series of half-day training sessions including introductory description of AAC, formal training in the use of signs, working in pairs and incorporating the learned signs, watched a video showing people with intellectual disabilities using the signs launched with the management team	staff were contacted within 6-12 months after training interview: to ask what they thought of the training to test their ability to do the signing to ask how often they used the signs	staff felt that formal training was most effective training method trained staff members could sign better than the non-trained group the trained staff did not use the signs often

However, the staff members themselves had not been involved in defining what they should learn in order to communicate more effectively. None of the studies specified if their training had a theoretical background (eg. pragmatics approach) which they followed.

Different staff training techniques have been widely researched (see eg. Anderson 1987; van Oorsouw et al. 2013). For example, learner based staff training that is linked to daily routines has been demonstrated to be effective (van Oorsouw et al. 2009; Bradshaw & Goldbart 2013). The reported training programs (see table 1) mainly consisted of individual advice to staff members during natural communication situations when interacting with their clients (McNaughton & Light 1989; Light et al. 1992; Money 1997; Purcell et al. 2000; Firth, Elford, Leeming & Crabbe 2008; Totsika, Toogood, Hastings & Nash 2008). Some of these were based on teaching the staff members to analyse their interaction with their clients using videos (Golden & Reese 1996; Dobson, Upadhyaya & Stanley 2002; Bloomberg, Johnson & West 2004). A few of the programs have also used lectures (McNaughton & Light 1989; Money 1997; Dobson et al. 2002; Totsika et al. 2008; Chadwick & Joliffe 2009) or workshops (Dobson et al. 2002; Totsika et al. 2008; Chadwick & Joliffe 2009) during training.

Most of the training programs have evaluated their effect on the staff members by observing the staff members' interaction behaviours pre- and post-training either during natural observation settings or through video recordings (McNaughton & Light 1989; Light et al. 1992; Golden & Reese 1997; Money 1997; Purcell et al. 2000; Dobson et al. 2002; Bloomberg et al. 2008). In one of the studies (McConkey et al. 1999), two SLTs were asked to judge the appropriateness of the staff members' interaction strategies. However, there was no separate provision made for assessing the staff, and the study did not specify how unanimous the SLTs' assessments were. Several studies have questioned the reliability of SLTs' professional judgements especially if the assessments are not based on separate evaluation tools, or if the clinician does not receive training for assessment (eg., Carter & Iacono 2002).

However, as Cullen (1992) and Schlosser (1999) both noted, to be maximally effective, any training should have validity within a prevailing social norm; thus relevant stakeholder perspectives should be acknowledged. Some of the older programs also measured social validation (Light et al. 1992; Golden & Reese 1996; Purcell et al. 2000), but only two of the newer ones researched the stakeholders' socially relevant perspectives (Firth et al. 2008; Totsika et al. 2008). Studies which explore staff members' own views about how the training was implemented could bring to light issues they see as significant in influencing how effective their training was (Firth et al. 2008; Schlosser 1999).

Most of the training programs, regardless of the training method, gave mixed results about how effective the training was. Even though the staff members reported that they had benefitted from the program (Light et al. 1992; Golden & Reese 1996; Purcell et al. 2000; Firth et al. 2008; Totsika et al. 2008; Chadwick & Joliffe 2009), only little effect was seen on the staff members' skills (Golden & Reese, 1997; Purcell et al. 2000; Dobson et al. 2000). Furthermore, in some of the studies the staff members reported

themselves that they do not often use the new communication practices (Firth et al. 2008; Chadwick & Jolliffe, 2009). As Cullen (1992) noted, despite the staff training the services offered may quickly revert to previous practices. Research concerning indirect speech therapy in school settings has yielded similar results (Cirrin et al. 2010). Changing staff members' behaviour permanently is a challenging task.

Then the question arises as to whether the sole emphasis of such programs on training the communication practices of the staff is enough to ensure effective communication. Ager and O'May (2001) noted that accomplishing more permanent change in staff behaviour requires training programs that also address the staff members' *thinking habits*. From the studies reviewed in Table 1, only Dobson et al. (2002) and Bloomberg et al. (2003) were interested in whether the participants' thinking habits were affected. Could a focus on thinking habits have an effect on the staff members' communication skills?

Most of the studies noted in their results (Totsika et al. 2008) or in their discussion section (eg. Purcell et al. 2000; Dobson et al. 2002), that supervisory support played a significant role during the training and in the maintenance of the new skills. Some of the programs had included the supervisor to the training (Light et al. 2000; Totsika et al. 2008), or had negotiated with the supervisors prior to training (Dobson et al. 2002; Chadwick & Jolliffe 2009). However, some of the programs did not mention the role of the supervisors at all (Golden & Reese 1997; Money 1997; Bloomberg et al. 2003). Only one of the training programs explained thoroughly how supervisory support was ensured as part of the staff-in-training (McNaughton & Light 1989). Supervisory support plays a significant role during training and in the maintenance of the new skills (Cullen 1999). For example, supervisors, both organisational managers and unit (or house) supervisors, need a clear idea about the contents of the training (Jones, Felce, Lowe, Bowley, Pagler, Stong, Gallagher, Roper & Kurowska 2001) and how the training is linked to organisational values (Tindall 1999). Supervisors also have to participate in the training in order to provide leadership and to act as a model for the staff in the use of the new practices (eg. McConkey & Collins 2010). Furthermore, the maintenance of the new techniques acquired through training is also the responsibility of the supervisors (eg. Mansell et al. 2008). Furthermore, they may have to change the rules of the organisation so that staff members have time to explore and develop the new skills (eg. Clement & Bigby 2009).

1.2.2. Summary

This chapter has explored the communication partner training programs directed to staff working with individuals who have learning disabilities. The communication training programs presented above had varying contents and executions and the amount of trained staff members varied greatly (from 3 to 58). To conclude, the research regarding communication training programmes has mainly focused on the microsystem of interaction (Bronfenbrenner 1979; 1994): teaching how the staff members should interact with the individuals with PMLD and whether the training changed their behaviour. Therefore, because of the mixed results of the training programmes sampled above, the question

- 34 remains as to whether the programmes targeted the right variables? Hence, including both the microsystem (the interaction between staff members and individuals) and the exosystem (supervisors and the organisation) could bring new aspects to the indirect therapy model.

The aim of this thesis is to understand which issues affect the delivery of indirect speech therapy for individuals with PMLD. Specifically, which communication strategies or ideas are important for the staff members to learn during the indirect therapy and which factors support the staff members' in maintaining the skills targeted.

The specific research questions were as follows:

- 1) Which communication strategies do speech and language therapists judge to be successful interaction with individuals who have PMLD? (Study I)
- 2) Which ideas or communication practices do the staff members see themselves as important to learn for achieving successful communication situations with individuals who have PMLD? (Study II)
- 3) Which factors help or hinder the staff members' ability to participate in indirect therapy and to maintain the skills targeted? (Study III)

3.1. STUDY DESIGN

The aim of this thesis was to understand the process of indirect speech and language therapy, especially those practices which enable staff members to use successful communication strategies over the long term working with individuals who have PMLD. The theoretical background of this study relies on Bronfenbrenner's Ecological Systems Theory (1979; 1994) which states that human development is affected by the entire surrounding ecological system. The interaction between staff members and individuals with PMLD is therefore defined at the level of different sub-systems of Bronfenbrenner's theory. In the microsystem, the staff members' and individuals' with PMLD communicative abilities affect how the interaction succeeds. In the exosystem, the interaction is regarded at the organisational level; the values and practices of the organisations have an effect on the interactions between the individuals and staff members. Finally, in the macrosystem, the social values and practices surrounding the organisations (eg. laws, structures, philosophy) influence how the organisations provide their care to the clients with PMLD and thus shapes the interaction between the staff members and their clients. This study tries to target both the microsystem and the exosystem. Therefore, the research interest is in the interactions between staff members and clients with PMLD and also in the organisation which provides the framework of these interactions.

A mixed-methods approach was selected for this study. This approach was employed since it allows research triangulation (Eskola & Suoranta 1998) where different methods are used at different stages of the study (Glogowska 2011). It is especially well-suited to studies where the research questions are complex and where using one method would not give a comprehensive picture of the issues at hand.

3.2. OIVA TRAINING

The data of this study were collected from the OIVA communication training program. The Communication and Technology Centre of the Finnish Association on Intellectual and Developmental Disabilities has developed a communication training model, the *OIVA-vuorovaikutusmalli*® [OIVA interaction model] (OIVA is a Finnish acronym from the Finnish words for participating through interaction). OIVA is focused on the support staff members who directly work with individuals who have complex communication needs. The model was piloted in 2002–2003 (Martikainen & Roisko 2004). The materials of the present study were gathered from the *OIVA training project*, which was a developing phase for the final OIVA interaction model. OIVA training was carried out from

2005–2008 (Martikainen & Burakoff 2006; Martikainen, Burakoff, Vuoti & Launonen 2008; Vuoti et al. 2009; Koski et al. 2010). During this time, three organisations from different parts of Finland offering services for individuals with PMLD took part in the OIVA training program. These organisations provided both residential and day activity services for individuals with learning disabilities. Altogether, 47 staff members started the training and 31 completed it (30 women, 1 man), with the loss of participants being due to staff turnover. A more detailed description of OIVA training can be found in study II and also in Vuoti et al. (2009).

3.2.1. The principles of OIVA training

The OIVA training program was influenced by several other communication training approaches; for example, VIG-Video Interaction Guidance (Kennedy & Sked 2008; Granlund & Olsson 1998; Nafstad & Rødbrøe 1999), Hanen (Ruiter 2000), VIKOM (Sollied & Harmon 2002), PICTURE IT (Bloomberg et al. 2003), and Intensive Interaction (Nind & Hewett 2005). The main principles of OIVA training were *community-based rehabilitation (CBR)* and a *client-oriented approach*, and the training was *solution focused*.

First principle: Community based rehabilitation (CBR)

With CBR the entire community attempts to determine how each member (staff members and individuals with PMLD) can participate fully and successfully in the life of the community (International Labour Organization, United Nations Educational, Scientific and Cultural Organization, and the World Health Organization 2004; see also World Health Organization 2004). In the Finnish health care system, the term has been used to describe services that target influencing social networks (parents, friends, caregivers, staff members) of individuals rather than the individuals themselves (Hildén et al. 2001). Therefore, in OIVA training each participating organisation identified two or more of its departments from which staff members would be trained. According to the principles of CBR, each department was regarded as its own “community.” Therefore, all staff members in the selected departments were required to participate in the training.

Second principle: Client-oriented approach

Communities have their own unique needs with regard to the issues they want to explore and develop in their daily lives (eg. Vuoti et al. 2009). Thus, OIVA training was *client-oriented* and the participating staff members played an active role. The goal was for them to begin to resolve communication problems in their respective working communities independently.

OIVA training was also *solution focused*; therefore, its aim was to recognise and strengthen those interaction patterns of staff members that were identified as functioning well in practice (eg. Katajainen, Lipponen, & Litovaara, 2008; Vuoti et al. 2009).

3.2.2. The length of the OIVA training and training components

OIVA training consisted of video-based guidance meetings and training sessions (see Fig. 2).

Video-based guidance meetings

During OIVA training, staff members participated in *video-based guidance meetings*. In these meetings, staff and a SLT analysed videotaped interaction situations between dyads consisting of a staff member and an individual with PMLD. The meetings were held every 6 weeks for 18 months, 12 times in each organisation. After OIVA training, organisations also had the opportunity to request additional meetings.

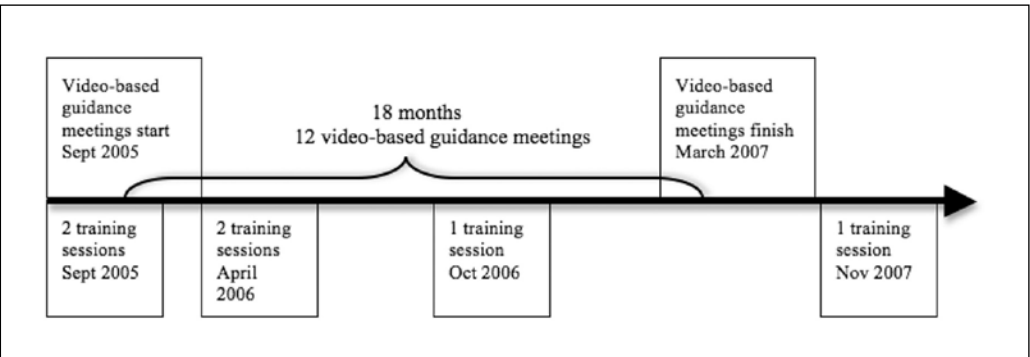


Figure 2. The length and contents of OIVA training

Staff members played an active role in the meetings. They chose the individuals with PMLD and the staff members who were to be studied on the video, made the video recordings during their daily work, and identified an issue they wanted to focus on during the meeting. During the meetings the SLT and the staff members focused on examples of positive interaction shown in the videos during the meeting. Since the theoretical background of OIVA training is derived from research on promoting the sensitive interaction style, the SLT helped the staff members recognise from the videos five variables of interaction that had been hypothesised as promoting a sensitive interaction style during the development of the OIVA training program (Burakoff & Launonen 2002; Launonen 2002; Martikainen & Burakoff 2006; Martikainen et al. 2008; Vuoti et al. 2009): (a) be-

ing reciprocally present in the situation, (b) waiting and giving time for the individual to initiate an interaction, (c) responding to the individual's communication, (d) adjusting their own expressions to meet the individual's communication abilities, and (e) verifying mutual understanding. A mnemonic LOVIT was formulated from the first letters of Finnish names of these variables.

Moreover, the SLT and staff members sought solutions to the issues that staff members had identified as being of most concern prior to the meeting (Martikainen & Burakoff 2006; Martikainen et al. 2008; Vuoti et al. 2009). During the meeting, staff members decided on an issue that would improve their interaction with the person with PMLD seen in the video. At the next meeting that aim was given more focus and developed further.

Training sessions

In addition to the video-based guidance meetings, staff members also participated in six training sessions. The aim of the first two training sessions was to increase participants' theoretical knowledge and understanding about interaction and communication with the individuals with PMLD. These sessions also covered how to use sensitive interaction style and AAC strategies. The next two training sessions gave staff members tools for creating individual communication passports for the individuals with PMLD (Millar & Aitken 2003). The last two training sessions provided the participating staff an opportunity to discuss their experiences concerning the training.

3.2.3. Supervisorial support during the training

Three organisational supervisors and six unit supervisors took part in the OIVA training sessions. Organisational supervisors were heads of their own institutions and had only administrative responsibilities. They were responsible for selecting the units that would take part in OIVA training and signed all contracts regarding the training. The unit supervisors had both administrative and practical duties. The developers of the OIVA training model worked with the organisational and unit supervisors to ensure the support of supervisors during the training.

Organisational supervisors attended regular meetings with the developers of the OIVA training program to acquire background information, hear about the stages of the training, and to discuss the new communication skills the staff members were acquiring. With this information the organisational supervisors were able to also support the unit supervisors during the training. Meetings gave an opportunity for the supervisors to discuss any issues affecting the training (such as organisational changes). In the end of the training, the meetings focused on planning how the staff members' new skills would be developed further and acquired and practiced by other staff not participating in OIVA training.

Unit supervisors were given background information about OIVA training. They were responsible for the participating staff members being able to attend the meetings and

40 fulfil the requirements of the training. The unit supervisors were encouraged to show interest towards the training, support the attending staff members to employ the new skills and to be involved in the training sessions. Unit supervisors were also involved in disseminating the new skills to staff members who had not participated in OIVA training.

3.3. MATERIALS AND ANALYSIS

The aim of this thesis was to examine the delivery of indirect speech and language therapy especially when SLTs guide staff members to use successful communication strategies with individuals who have PMLD. This research sought to explore both the staff members' own ideas and the views of the SLTs who work in the learning disability field. Therefore, this study utilised two kinds of data, both of which were gathered during the OIVA project: the video-tapes filmed for the video-based guidance meetings (study I) and staff members' semi-structured interviews (study II & III). The next chapter will discuss the materials of this study and their analysis. Along with the materials, the participants using each particular material and analysis will be described.

3.3.1. SLT group sessions (Research question 1)

This study investigated the interaction strategies that SLTs judge to contribute to successful interactions with individuals who have PMLD. To explore this question, a group session was set up where six SLTs with more than 15 years of experience in working with individuals with PMLD assessed and evaluated altogether ten video clips filmed for the video-based guidance meetings of OIVA training. Both quantitative and qualitative measures were used.

Videos

Altogether, eighty video clips were made during the OIVA project. The staff members and the clients (or their advocates) gave prior consent for the videos to be used for research. The original eighty videos varied in their length (from 40 seconds to over 6 minutes) and the videos showed both individual interactions between a staff member and one client, and group situations involving a staff member and several clients. Therefore, to ensure that the assessment task would be manageable and that the videos would be comparable, ten videos were selected for this study. First, twenty video clips were randomly selected from the eighty original videos. Second, four videos portraying a group situation were removed. Third, the remaining 16 videos involving interactions with individuals were organized according to their duration. Finally, ten video clips that were the most similar in length were selected for study. Table 2 shows the demographic information of the ten dyads portrayed in the video clips.

Table 2. Demographic information of the carers and individuals with multiple learning disabilities portrayed in the videos.

Dyad,	Carer			Individual with multiple learning disability			
duration of interaction (min:sec)	Age	Work experience	Sex	Age	Sex	Diagnosis (LD=learning disability)	Main communication method
1 0:55	43	<10 yrs	F	40	F	Mild LD, hearing loss, low vision	Speech, gestures
2 1:03	56	<10 yrs	F	48	F	Undefined LD, hearing loss	Vocalisation, gestures, manual signs, pictures
3 1:36	40	<10 yrs	F	17	M	Profound LD	Vocalisation, gestures
4 1:01	50	<10 yrs	F	50	M	Undefined LD	Vocalisation, gestures
5 1:46	54	<10 yrs	F	32	M	Profound LD, hearing loss, autism, epilepsy	Vocalisation, gestures, objects, pictures
6 1:59	45	<10 yrs	F	39	M	Profound LD, hearing loss, low vision, epilepsy, autism	Vocalisation, gestures
7 0:56	49	<10 yrs	F	49	M	Mild LD, hearing loss, epilepsy	Gestures, drawings
8 2:40	27	3-10 yrs	F	34	F	Moderate LD, Down syndrome	Vocalisation, gestures
9 2:40	28	3-10 yrs	F	26	M	Severe LD, autism, epilepsy	Vocalisation, gestures
10 1:49	34	<10 yrs	F	39	M	Severe LD, cerebral palsy	Vocalisation, gestures, few words

Participants of group situation

The participating SLTs were required (1) to have 15 years or more experience in working and communicating both with clients who have PMLD and with their staff members. Yet, at the same time, the SLTs (2) could not have participated in the OIVA training program, nor (3) have worked with either the staff members or the clients recorded in the videos. A search for SLTs filling these criteria was conducted by consulting three experienced SLTs who had long careers in disability services: a lecturer from the Department of Speech Sciences at the University of Helsinki, a SLT from the Developmental Disability Clinic of Rehabilitation Services of Helsinki, the capital of Finland, and the Project Manager of the OIVA training program. These three SLTs identified seven candidates living in different parts of Finland who then were contacted and asked if they could identify any other SLTs who met the criteria. Two additional names were mentioned and they were invited to participate in the study and asked for any further names. These two additional participants did not offer any new names; thus sampling had reached the saturation point. From the nine candidates who met the three criteria, six were willing to participate. Informed consent was obtained from all participants. The characteristics of the participating SLTs are shown in table 3.

Table 3. Characteristics of participating SLTs

Id	Age range (years)	Work experience	Current position
1	40-50	15	SLT, Children's hospital, Centre for Augmentative and Alternative communication
2	50-60	28	SLT, Developmental Disability Clinic
3	50-60	23	Communication specialist, foundation producing social services
4	40-50	25	Head of special services for adults with learning disabilities
5	50-60	29	SLT, rehabilitation centre for people with learning disabilities
6	50-60	28	Independent SLT

Procedure

SLTs participated in a group session where they assessed the staff members portrayed in the videos from 1 to 10 with 1 representing the most successful communication partner and 10 representing the least successful communication partner. Previous studies have noted several difficulties in agreement between professionals (eg. Carter & Iacono 2002; Ashton 2000; Purcell et al. 2000). Thus, a procedure was adopted which allowed the SLTs to assess the staff members independently and that afterwards used techniques to enhance inter-judge reliability (Murphy & Cameron 2008). This procedure was piloted with two additional SLTs and refined according to their comments.

Firstly (1), all SLTs as a group rated the staff members in the same place and at the same time; therefore the setting was consistent. Secondly (2), before the assessment task, the SLTs watched one additional interaction situation between a staff member and a client. After watching that video, the SLTs discussed the situation and together determined which communication strategies staff members should use when interacting with adults who have PMLD. This was done to come up with a clear definition which they could use in making their assessments. Thirdly (3), the SLTs watched ten video clips and assessed them independently from 1 to 10, with 1 representing the most successful communication partner and 10 representing the least successful communication partner. Fourthly (4), while watching the videos, the SLTs were asked to fill in a form. This form included a nickname for each videoclip so the SLTs would remember the contents of the clip, space for the initial and final rating, and a few rows for the SLTs to write down their evaluations of the carers' positive and negative interaction patterns. This procedure was used to avoid overly complex assessment tasks. Finally (5), the SLTs explained the criteria for their assessment to the other SLTs and were given an opportunity to amend their assessments.

Quantitative analysis

Correlation tests were used for statistical analysis since they determine how strongly variables are related. Non-parametric tests were selected since, the sample size was small and the data did not follow a normal curve. Since small sample sizes can produce a strong correlation by chance, in this study correlations are considered strong only if they are at a 0.01 level of significance.

Level of agreement between SLTs

The unanimity of the SLTs' assessment was analyzed with a test of Kendall's W. This test is aimed at calculating agreements between three or more rankers, and it handles robust data. The test was conducted separately with the SLTs' initial and final assessments.

Influence of interaction styles on SLTs' assessment

To determine how staff members' interaction styles affected the SLTs' decisions, the ten interactions were analyzed by the author of this thesis. The three main elements for analysis were determined on the basis of previous literature (as described in the introduction). They were as follows: (1) Did staff members use sensitive/dominative communication style? (2) Did they use facilitative/directive communication style? (3) Did they use non-verbal communication? The methodological tools used in this study for analyzing the interactions were obtained from two kinds of earlier research studies of the interactions between staff members and clients with learning disabilities (McConkey et al. 1999), and from studies of child-mother interactions (Pine 1992). The selected dyads' interactions were transcribed by making a record of both staff members' and clients' verbal and non verbal acts. The different communication acts described below were analyzed and calculated from the transcriptions of the extracts (Table 4). The actions of the clients were considered communicative if staff members were seen as responsive to them, or if the first author of this study, in her professional understanding, interpreted them as communicative.

Sensitive/dominative communication style. Staff members' use of sensitive or dominative communication style was measured by counting how many initiations both the staff member and the client produced during the interaction situations (McConkey et al. 1999) (see Table 4). The sensitive/dominative ratio was calculated by dividing the number of staff members' initiations with the sum of initiations between the partners. If staff members initiated less often than the client (ratio <0.5), the interaction style was considered sensitive.

Facilitative/directive communication style. The staff members' use of a facilitative or directive communication style was measured through coding the verbal acts by the categories outlined in Appendix One. This system was derived from Pine's study of communicative interactions (1992). Verbal acts coded as "behavioural directives", "tutorial prompts" and "attentional directives" were considered directive since, by using them,

Table 4. Communication acts used in this analysis

Communication acts	Subcategory	Definition
Initiations (adapted from McConkey et al. (1999))*	N/A	An utterance or an act that tries to establish an interaction chain: by giving new information, by changing the subject, or by starting a new subject.
Total number of all communication acts	N/A	
Total number of all verbal acts	N/A	
Total number of directive verbal acts(based on Pine, 1992)	Behavioural directives	Utterances that elicit or constrain the physical behaviour of the individual by commanding, requesting or encouraging the individual to do or desist from doing something: for example, 'Should you go and get the table cloth?'; 'Do you have to wipe it?'.
	Tutorial prompts	Utterances that attempt to elicit a display of verbal performance or linguistic knowledge from the individual and to which the staff member knows the answer: for example, 'What can you see in front of you?'; 'How do you sign this?'.
	Attention directives	Utterances that seek to attract, direct or redirect the individual's attention: for example, 'Look'; 'See that there'.
Total number of facilitative verbal acts (based on Pine, 1992)	Request of information	Utterances that request information which the speaker does not already possess: for example, 'What are you trying to show me?'; 'Should I open the window?'.
	Description of the immediate environment	Utterances that describe features of, or objects, individuals or events in, the immediate environment: for example, 'It has been raining'; 'I'm getting goose bumps'; 'I'm helping you'.
	Feedback	Utterances that acknowledge, praise, correct, or express disappointment at an individual's performance or that acknowledge, request clarification, reject or correct the individual's utterance – including recasts that repeat the individual's utterance in a more conventional form: for example, 'That's right, good!'; 'Oh wow'; 'Uh-huh'; 'What did you say'; 'Just let it be there'.
	Other	Utterances that do not fit into any of the categories outlined above, including utterances that are not about the immediate environment. Also, utterances that involve imaginary and routine play, and utterances that serve to establish or maintain contact with the individual: for example, 'Hi'; 'Thank you'; 'There you go'.
Total number of non-verbal acts (based on McConkey et al. 1999)	Gesture	The use of hands to convey meaning and to augment or support communication, including natural gesture, signs, and pointing.
	Touch	Physical contact with another person; for example, to support, direct, or gain attention.
	Posture shifts	Shifts in body orientation, proximity and posture in relation to another person; for example, leaning towards the person or adjusting position to be in that person's visual field.
	Head movements	Using movement and orientation of the head to encourage or sustain communication; for example, head nods to indicate listening

*Acts analysed also from the individuals with PMLD

staff members were directing the client's attention to something of interest to the staff member. Verbal acts coded as "requests for information", "description of the immediate environment", and "feedback" were considered facilitative since, by using them, staff members could involve themselves in the activity in which the client was already interested. Table 4 explains each type of verbal act more fully. The facilitative/directive ratio was calculated by dividing the facilitative acts with all verbal acts. A staff member's interaction style was facilitative if over half of the verbal acts were facilitative (ratio >0.5).

Use of non-verbal communication. The staff members' use of non-verbal communication was measured by dividing the number of non-verbal acts with the total of the staff members' verbal and non-verbal acts (Table 4).

Inter-rater reliability checks for the measures

To establish inter-rater reliability for the codes used in analysis, the first author and a SLT with expertise with clients who have PMLD rated one of the communication situations. Percentage agreements for each code were calculated. The overall agreement percentage for the codes analysed from the communication acts made by the clients was 87%. The overall agreement percentage for the codes analysed from the staff members' communication acts was 90%. The percentage was lowest for verbal behaviours that rated directiveness (81%) and highest for the initiations (100%). This agreement percentage can be considered as acceptable (Kazdin 1980).

Correlations between the SLTs assessments and staff members' communication styles

To establish how the interaction styles were related to the SLTs' assessments, Spearman's correlation coefficient was calculated. Firstly, the mean of each staff members' assessment was calculated. Then this mean was compared individually to the sensitive/dominative ratio, facilitative/directive ratio and to the use of non-verbal communication. Spearman's correlation test was selected since it is a non-parametric measure of statistical dependence between two variables and aims at robust data.

Qualitative analysis

SLTs' definition of a skilful communication partner for individuals with PMLD

The SLTs' definitions of skilful communication partners for individuals with PMLD were grouped under two broad headings: communication practices and thinking habits. These headings were identified from the staff members semi-structured interviews (see below). The analysis of the SLTs' definitions has not been presented in the research articles included with this thesis.

SLTs' explanations of their assessments

The group situation where the assessment took place was videoed and the SLTs' justifications of their assessments of each staff member were transcribed. However, since each SLT explained very few criteria for what they assessed to be positive and negative about

46 each staff member's interaction style, it seemed unproductive to try to group them under the same headings or in other ways further analyze these justifications. Therefore, SLTs' justifications are presented as direct quotations. Along with the quotations, those SLTs with similar views will be specified. Since the discussion was in Finnish, the quotations have been translated into English.

3.3.2. Semi-structured interviews (Research questions 2 & 3)

A semi-structured interview (Kvale 1996) was used to explore which ideas or communication practices the staff members saw as important lessons to learn during the training (study II) and which factors helped or hindered the staff members from participating in the training and from maintaining the skills targeted during the training (Study III). Qualitative methods were used to analyse the interviews.

Selection of the interviewed staff members

Since the analysis of the interviews utilised qualitative methods, it was considered appropriate to use purposeful sampling, even though the result is an unrepresentative sample (Marshall 1996). The selection criteria were as follows. The staff members who were interviewed had to have participated in the OIVA training program from the beginning, be still employed in the same department during the interview, be able to speak as members of the communities they represent (Spradley 1979) and, thus, to describe the supervisors' actions during and after the training. In one of the three participating organisations, only two staff members met these criteria at the time of the interviews and thus were automatically selected. Therefore, it was decided to interview two staff members from each organisation, resulting all together in six (6) staff members who were interviewed. The professionals responsible for the training selected the rest of the staff members using the criteria mentioned above. The six selected staff members' ages ranged from 29 to 58, and were all women.

Interview

Each of the six staff members were interviewed two months after the last OIVA training session. An interview protocol was designed based on a pilot interview of one staff member who participated in OIVA training but who was not selected as an interviewee for this study (see Table 5). The questions were open-ended; this allowed staff members to talk about their personal experiences and to volunteer additional information they thought was relevant (Kvale 1996). With the staff members' prior understanding and signed consent forms, interviews were videotaped to ensure the accuracy of the data collection.

Table 5. The interview protocol

Questions exploring the interviewees' views before the OIVA training:

1. What did you think about OIVA training when it started?
2. Why did you participate in the training?
3. What kind of goals did your community/colleagues set to be achieved?
4. What kind of goals did you set for the individuals with PMLD to be achieved?

Questions exploring the interviewees views during the OIVA training:

5. What did you think about the length of the OIVA training period?
6. If you could go back, what would you have done differently during the training?
7. How did the community/colleagues support you during the training?
8. What did your colleagues think about the training?
9. What did you think about watching the videos in meetings with your colleagues?

Questions exploring the interviewees views after the OIVA training:

10. How did OIVA training impact the lives of the individuals in your community?
11. What do you think now about the training?
12. Do you think that you have changed as an interaction partner as a result of the training?
13. If you believe you have, what contributed to such progress?
14. What do your colleagues think now about the training?
15. Has your community's interaction environment changed as a result of the training?
16. If it has, what contributed to the change?
17. Have you seen changes in the behaviour of the individuals with whom you interact?
18. If you have, how do you account for these changes?

Analysis of interviews

The duration of the videotaped interviews ranged from 20 to 30 minutes. Interviews were transcribed verbatim. The interviews were used to gain knowledge of three different issues—the communication practices and thinking habits acquired during training, and also the support the staff members received during the training. The original interviews were in Finnish, they have been translated into English with every attempt accurately convey the meaning. An authorized translator confirmed the translations.

Initially, the author of this thesis read and reread all the transcripts and, once familiar with the data, began the process of data reduction—selecting the relevant passages from the transcripts (Miles & Huberman 1994; Thomas 2006). Firstly, according to the second aim of this study, the passages to be focused on were those where staff members described issues about communication with individuals with PMLD. Secondly, according to the third aim of this study, those passages were selected where the interviewed staff members described their supervisors' actions during and after OIVA training. In subsequent readings, the selected passages were sorted into key themes. These themes were then organised into repeated themes that were subsequently organized into categories (see the key themes, repeated themes, and the categories in Tables 9 & 10).

The trustworthiness or the justifiability of the categories and their analysis was examined in terms of the categories' transparency and communicability (Auerbach & Silverstein 2003). A research assistant (5th year speech and language therapy student) independently identified the relevant passages according to the aims of the study. Then, the assistant and the author coded the selected passages following the categories the author had developed. Afterwards, the author and the research assistant compared their codes and discussed the relevance of each category and how the interpretations of the passages were made. This was done to affirm the communicability of the categories and to establish a final coding scheme (Thomas 2006). Finally, the first author and the assistant coded one of the interviews independently and the inter-rater agreement between the two coders was calculated to be 83%, which reaches the traditional threshold of reliability (Kazdin 1980). These categories were also explained to one of the interviewed staff members, and she confirmed that the categories also represented her interpretations. Specific examples from the data were included throughout the results to demonstrate and corroborate assertions. In the examples given, the staff members who were interviewed have been assigned a random number to ensure their anonymity.

3.4. ETHICAL CONSIDERATIONS

The data from this research came from the OIVA training project. The board of directors of the three participating organisations approved the plan for the OIVA project and related research. All participants of this study (staff members, SLTs and individuals with PMLD) were provided with a participant information sheet and were asked for their informed consent.

4.1. SLTs' CRITERIA AND ASSESSMENTS OF WHO IS A SKILFUL INTERACTION PARTNER (STUDY I)

4.1.1. SLTs' definition of a skilful interaction partner includes successful communication strategies and positive thinking habits

Prior to assessment task, SLTs jointly created their definition of a skilful interaction partner for individuals who have PMLD. These criteria are presented in table 6.

Table 6. SLTs' definition of a skilful interaction partner for individuals with PMLD

A skilful interaction partner for the individuals with PMLD:
Communication practices: <ul style="list-style-type: none">– makes the situation peaceful– is calm– does not use prompting– is active– uses objects and pictures to communicate– involves the individual in meaningful situations– waits for the individuals to make initiations– finds the shared interest at stake
Thinking habits: <ul style="list-style-type: none">– wants to make it work– listens to the individuals– is positive– is unbiased and believes that the individuals want to communicate– respects the individuals' thoughts

The SLTs defined a skilful interaction partner for clients with PMLD as someone who uses successful interaction practices. These practices included being active and using objects or pictures in communicating. SLTs also described a skilful interaction partner as someone who possesses positive thinking habits regarding individuals with PMLD: they are unbiased and believe that the individuals want to communicate. They also respect the individuals' thoughts.

4.1.2. SLTs had contradictory ideas of who is a skilful interaction partner

In the assessment task, the SLTs disagreed initially about which of the staff members were the most skilful interaction partners (Kendall's coefficient of concordance 0,32 , $p=0.04$) (Table 7). After the group discussion, the SLTs were more unanimous about the staff members (0.43, $p=0.006$).

Staff member	SLT 1		SLT 2		SLT 3		SLT 4		SLT 5		SLT 6	
	i	f	i	f	i	f	i	f	i	f	i	f
1	4	4	8	4	2	2	2	2	1	1	5	10
2	8	9	4	8	8	10	10	10	5	6	1	1
3	5	5	5	5	10	8	1	1	6	5	10	5
4	10	10	7	7	5	5	5	5	9	9	9	9
5	1	1	9	9	7	7	8	8	8	8	2	2
6	7	8	10	10	9	9	7	7	7	7	8	8
7	6	7	6	6	4	6	9	9	10	10	6	6
8	2	2	3	3	3	3	6	6	4	4	7	7
9	9	6	2	2	1	1	3	3	2	2	4	4
10	3	3	1	1	6	4	4	4	3	3	3	3

* Assessment grading from 1 to 10, 1=most skilful communication partner, 10=the least skilful communication partner.

The SLTs assessed those staff members higher who used facilitative verbal acts (Table 8). This was apparent in the initial (Spearman rank order correlation coefficient 0.924, $p=0.00$) and in final (0.945, $p=0.00$) assessment. However, staff members' sensitive interaction style did not have an effect on the SLTs' assessment (initial 0.552, $p=0.098$, final 0.628, $p=0.052$) or on whether the staff members used non-verbal communication (initial 0.418, $p=0.229$, final 0.457, $p=0.184$).

Table 8. The mean of the SLTs' initial and final assessments and the ratios of facilitative and sensitive communication styles and the use of non-verbal acts.

Staff member	Mean assessment initial (1-10)	Mean assessment final (1-10)	Facilitative ratio (0-1)	Sensitive ratio (0-1)	Use of non-verbal acts (0-1)
1	3,67	3,83	,76	,23	,39
2	6,00	7,33	,60	,75	,62
3	6,17	4,83	,25	,63	,38
4	7,50	7,50	,17	,64	,67
5	5,83	5,83	,56	,71	,0
6	8,00	8,17	,14	,73	,46
7	6,83	7,33	,36	,88	,07
8	4,17	4,17	,54	,76	,42
9	3,50	3,00	1,00	,14	,33
10	3,33	3,00	,76	,38	,26

Staff member 2 received one of the most mixed results from the SLTs (the assessment's standard deviation was initially 3,2; and finally 3,4) and she was assessed initially and finally as one of the most skilful and one of the least skilful partners. All SLTs found it positive that "this staff member used AAC methods (SLT 1)" (such as signs, pictures and drawings) in communicating with the client. However, SLTs 1, 2 and 4 saw "no real reciprocity (SLT 1)" in the interactive situation. SLT 6, who assessed the staff member as the best interaction partner, also mentioned this issue. A quantitative analysis revealed that Staff member 2 dominated the conversation by initiating often (.75). She was the third most dominating staff member of all the staff members. However, she frequently communicated non-verbally (.62) which made her the most nonverbal of the all staff members. Thus, while some of the SLTs were negative about her dominance in the interaction, others valued her ability to use non-verbal communication acts.

Staff member 10 received one of the most unanimous result from the SLTs (standard deviation initially of 1,6; and finally 1,1). SLTs 1, 2, 4 and 5 mentioned that "the staff member followed the individual's interests by dropping her own agenda and starting to talk about what the individual was interested in (SLT 4)". Staff member 10 mostly used facilitative verbal acts (.76), making her the second most facilitative of all staff members. She also initiated fewer times (0.38) than the client did. Nevertheless, she used few non-verbal acts (.26), making her third most verbal staff member. Thus, all SLTs were impressed that she used sensitive and facilitative interaction style even though she did not use non-verbal acts along with her speech.

4.2. STAFF MEMBERS' VIEWS OF HOW TO BECOME A SKILFUL INTERACTION PARTNER (STUDY II)

During the interviews the staff members explored several insights which they saw as important for their development as communication partners. These were related to communication practices and thinking habits about communication (Table 9).

Key themes	Repeated themes	Main category
Giving more opportunity for individuals with PMLD to communicate Waiting for individuals to initiate communication Knowing what individuals mean with their non- verbal and verbal expressions Verifying that there is a mutual understanding Exploring and discussing with other staff members what individuals might mean Using clear sentences and speaking about one thing at a time Using augmentative and alternative strategies which suit clients Using similar communication acts as the individuals (such as vocalisations) to establish contact	Being patient Learning to interpret communication attempts by the individuals with PMLD Communicating clearly	Communication practices
Individuals with PMLD have opinions Individuals try to express their opinions Individuals can make decisions about their daily life It is important to stop and listen to the individuals It is essential to spend time together rather than to perform tasks Productiveness also includes situations when nothing special happens Such work can be fun	Realising the individuals’ communication skills Giving priority to communication Viewing the essence of work	Thinking habits

4.2.1. Learning new communication practices

Being patient

All staff members (n=6) emphasised that their OIVA training had taught them to be more patient during interaction situations. As one staff member explained:

Staff member 4: ‘One now thinks more of approaching the communication situation in the sense that there can be more room for the partner to be able to express himself.’

Learning to interpret communication attempts by the people with MLD

The staff members (n=6) repeatedly voiced that it had become their new priority to try to understand their clients’ communication attempts. Thus, they had started to focus on the individuals’ gestures and facial expressions to help them to better understand what was being communicated:

Staff member 5: ‘We ponder what the individual means and wants to say with that particular facial expression, and if we had not started to concentrate on these expressions and ask [from the individuals] if they mean this or that, whether no change would have happened.’

Furthermore, the staff members (n=5) had begun discussing with their colleagues how different individuals used different non-verbal means to communicate. They felt that this

new practice had improved their ability to interpret the intended meaning of individuals, as explained here:

Staff member 3: ‘We talk a lot more about the individuals’ initiatives, like ‘this individual did this and whether he has ever done that before and whether you think that it was related to...’ and in our daily official meetings [with other staff members and supervisors] we also try to concentrate on this.’

Communicating clearly

The staff members (n=6) also discussed the ways they expressed themselves when communicating with individuals with PMLD. Firstly, three of them had realised that when they use clear sentences and non-verbal communication, as well as speaking about one thing at a time, they are more likely to be understood. Secondly, the other three explained that they had started to consider their own use of AAC strategies, as explained here:

Staff member 2: ‘For years we just showed him a [picture of a] clock and said that it meant to take a break but to him it meant that it is a clock.’

Thus, the staff members reported that they had learned the importance of ascertaining whether individuals had understood the AAC strategies that had been used, and that it is the staff member’s responsibility to try to find strategies that truly benefit the individual. Finally, the staff members (n=6) realised that using communication acts that are similar to those used by their clients (such as vocalisations and gestures) helps create interaction.

Staff member 2: ‘In my previous job I had clients who did not speak at all but they did vocalise a lot, and whenever I was alone I secretly [vocalised with them] ... but, in a way, it’s embarrassing... I don’t care at all anymore. If a new [staff member] comes along and I am vocalising with my clients ... I clarify [to her] that this is like his [the individual’s] conversation and you should try it and you can have much better contact with him.’

4.2.2. Acquiring new thinking habits

Realising the individuals’ communication skills

It seemed that OIVA training increased the staff members’ (n=6) confidence in the ability of their clients to express opinions. Essentially, some of them (n=3) seemed to realise that individuals with PMLD do have opinions about their daily life, as the following passage explains:

Staff member 3: ‘It is so easy to think that when one talks, things get to be resolved. But what happens when one [client] does not talk? One [a staff member] has not considered that such an individual can have opinions even though he does not speak.’

54 This demonstrates a problem staff members face everyday: since the clients do not speak, it is difficult to know what they mean. As noted previously, the staff members believed that they had become better at interpreting the expressions of the individuals as a result of their OIVA training. This seemed to make them (n=6) realise that the clients do have opinions, as the following staff member explains:

Staff member 3: ‘Some people clearly seem to have good opinions of their own which they bring forward, and now we have noted that they express them very clearly, but we just did not see them before.’

Staff members seemed to become conscious of the fact that the clients can make choices about how they want to spend their time, as noted here:

Staff member 1: ‘Today our clients can influence what we do. We have in our weekly schedule a choice in the opportunities we can give. Obviously we cannot give limitless choice. But earlier, everyone painted today and made puzzles tomorrow. However, now [following OIVA training] individuals can have their say [in the daily routine]. ‘

Giving priority to communication

The staff members also felt that they had started to give priority to communication situations. All of the staff members (n=6) described that they had learned to stop and listen to individuals, even at their busiest times.

Staff member 6: ‘Then I just learnt to think in a different way; that this individual means something now and that I cannot just ignore it by saying that I am busy. I need to stop and listen to him.’

Furthermore, two of the staff members described how they had started to make sure that care situations always included communicative interaction with individuals and thus this change in their thinking habit was reflected in their practices:

Staff member 5: ‘I have started to concentrate on what I am doing with the individual. Now every situation has interaction within it; thus the daily care situations are not only “tricks” that we do, like washing the individual quickly, but the situation also includes communication.’

Moreover, another staff member described the same issue including some self-criticism of their previous work habits:

Staff member 3: ‘[Now] we try not to talk over [the individual] and if there are two of us [staff members] taking care of the individual, we try to talk to the individual, and the weekend conversation [with the other staff members] would be left to another time.’

The OIVA training program appeared also to influence how some of the staff members viewed the essence of their work (n=3). One of the staff members in particular explored this topic extensively. She had concluded that it is more essential for individuals to be understood in their own community than to complete tasks. Furthermore, she realised that keeping busy was not the only way she was able to show her supervisors that she was doing her work properly. The moments when nothing special happens can also be productive, as she explained:

Staff member 1: ‘It is not so important anymore that we can get the puzzle done but if he wants to talk about something else other than the puzzle, then so what? I think it is much more important to the client that, if he has something to tell me, I try to understand it.’

4.3. STAFF MEMBERS’ THOUGHTS OF SUPPORT NEEDED WHEN PARTICIPATING IN THE OIVA TRAINING (STUDY III)

Table 10. Staff members’ views of factors supporting to maintain and disseminate the skills targeted during the guidance period

Key themes	Repeated themes	Categories
Time to participate in the training Time to think about and try out the new skills Participating with other staff members Being assigned to the same shifts with other participating staff members Receiving substitutes that enable every staff member from the same shift to participate Employer shows that training is important by providing time to participate	Time to participate with other staff members Time to discuss and think about the training with other staff members Employer shows that training is important by providing time	Time to develop the communication practices cooperatively
Supervisors leave the responsibility to find time to further develop the to staff members Supervisors’ enthusiasm towards the learnt skills diminishes Supervisors provide time to develop the skills further Receiving new equipment (such as new video cameras) to develop skills further	Supervisors provide time and resources to develop the new skills after the training Supervisors are enthusiastic about the training after the training is finished	Support after OIVA training had finished
Trained staff members show the new skills to non-participating colleagues Supervisors organise new training sessions where other colleagues can participate Trained staff members are sent to other wards to model the new skills	Staff members disseminate new skills Supervisors provide frameworks for disseminating the new skills	Disseminating the communication practices learned through OIVA

4.3.1. Staff members need time to develop the communication practices cooperatively

The interviewed staff members described time as the most important contribution of the supervisors during the training period (table 10). Time was needed for staff members to participate in the training and also to practice developing their skills with other participating staff members during the workday. Five of the interviewed staff members felt that supervisors had succeeded in this. One staff member even noted that the organisation's views about the importance of communication had changed during the training and that the difference had enabled the staff members to concentrate on their clients:

Staff member 5: 'There has always been a desire among the staff members to understand the views of the individuals' with PMLD but there has not been time for it. However, now that the employer has enabled us to use time during work for this, it is easier.'

One of the interviewed staff members felt that the time supervisors provided for the training was inadequate. In addition to the lack of time, she mentioned that the participating staff members worked in different shifts.

Staff member 6: 'We had to do everything new in addition to our other chores. We were not given separate time for filming when every staff member participating in OIVA could have been present.'

4.3.2. Staff members require long term supervisory support

One of the interviewed staff members was doubtful about continuing to use the new skills, since the support of the training had ceased:

Staff member 6: 'I have a feeling that if we are not pushed forward, further development is not going to happen... We have to see if we are going to keep it up.'

Therefore, providing supervisory support only *during* OIVA training was found to be insufficient. All of the interviewed staff members (n=6) felt that the support supervisors provided *after* the OIVA training period was also essential. Even though the training had finished, the staff members still felt that they needed more time to develop their skills further.

Staff member 4: 'Our employer still provides us time for us to be able to discuss things regarding OIVA training.'

However, another one of the staff members had not received such support:

Staff member 2 : ‘A challenge is that, because this has been going on for a long period of time, the enthusiasm from the supervisor’s side is clearly diminished. We have to struggle for time to deal with these issues.’

4.3.3. Supervisors need to take the responsibility of disseminating the newly learnt skills

All of the staff members interviewed (n=6) mentioned that supervisors had an important role in disseminating the newly learnt communication practices to non-participating colleagues. As part of the OIVA training program, the organisational managers had been asked to submit a plan before the end of the video-based guidance meetings outlining how they were going to maintain and disseminate the improved communication practices. One of the staff members described her organisation’s plans:

Staff member 3: ‘We have a plan for our two newer co-workers who just recently started to work in our department to be filmed and we are going to have a video-based guidance meeting.’

However, in one of the participating organisations, it seemed that the staff members (n=2) were left with the responsibility of disseminating the information:

Staff member 2: ‘There are only two of us left [from the staff members who originally participated in the training]. I have a new colleague and she is really interested in things and we do try to explain these issues to her.... It is a real challenge to continue this [use of a sensitive interaction style] now that there are only two of us left.’

5.1. SUMMARY AND DISCUSSION OF THE RESULTS

The aim of this study was to understand which issues affect the delivery of indirect speech therapy especially when SLTs guide staff members to interact with the individuals who have PMLD. The theoretical background of this study was Bronfenbrenners' Ecological Systems Theory (1979; 1994). Therefore, in this study the interaction of staff members and their clients was examined both at the level of the microsystem (the interaction between staff members and individuals with PMLD) and the exosystem (how the organisational system affects to these interactions). The results of this thesis can benefit both SLTs and staff members working in the field of learning disabilities and complex communication needs. These findings can also be interest of any professionals or researchers providing training to staff members working in the field of learning disability. These findings also contribute to previous international and Finnish studies and development projects concerning indirect speech and language therapy, especially related to communication skill training for staff members.

Issues important for the staff members to learn during the indirect speech and language therapy (Study I, II)

The first main aim of this study was to recognise which issues the staff members should learn to focus on during indirect speech and language therapy. Both staff members and SLTs mentioned communication strategies and thinking habits as important when becoming a skilful interaction partner for individuals with PMLD. However, the SLTs in this study seemed to use different standards when assessing the communication between staff members and clients with PMLD. In the initial assessment stage, before the group discussion, the SLTs disagreed on which staff members were skilful interaction partners. Also, in the final stage of the assessment the SLTs of this study had contrasting views about different interaction strategies; for example, it seemed that some valued the ability to use non-verbal communication over any other strategies. Several studies measuring the SLTs' professional assessments have demonstrated problems with inter-judge reliability (Carter & Iacono 2002). Therefore, the results of this study are not surprising. The next chapter will discuss these results more in detail.

Facilitative interaction style

The statistical analysis found out that the SLTs' assessments correlated with how many facilitative verbal acts the staff members used during the communication situation. Thus, those staff members who used a facilitative interaction style were considered as skilful

interaction partners for individuals who have PMLD. Furthermore, when SLTs cooperated in defining a skilful interaction partner they mentioned finding a shared interest but not using prompting as important interaction strategies. Individuals who have PMLD are capable of mutual attention, but establishing episodes of such attention can be difficult (Hostyn, Neerinckx & Maes 2011). Furthermore, children with PMLD have difficulty shifting their attention to whatever new someone else is talking about (Harris, Kasari & Sigman 1996; Wilder et al. 2004). Accordingly, focusing on activities in which the clients with PMLD are already interested in is easier for them. Thus, when staff members direct their attention to the present interests of the clients, communicative interaction is facilitated. Furthermore, when staff members use a facilitative interaction style, the clients start to initiate and produce more communication acts (eg., Mirenda & Donellan 1986; Pine 1992). The staff members did not mention facilitative interaction style in their interviews.

Sensitive interaction style

The use of sensitive interaction style, thus being patient and waiting for individuals to initiate communication, was an important issue the staff members mentioned during their interviews. Dennis (2002) has also noted that skilled interaction partners value the capacity to make room for silence when communicating with people with PMLD. Furthermore, individuals with PMLD initiate communication less frequently than they respond (Wilder & Granlund 2004). They need more time to initiate communication acts (McLean et al. 1991). Thus, the ability of staff members to be patient provides the individual with PMLD with more opportunities for interaction (Light et al. 1992). However, even though SLTs mentioned in their group definition of skilful interaction this strategy of listening to the individuals and waiting for the individual to make initiations as important when communicating with individuals with PMLD, this was not reflected in their assessments. The use of a sensitive interaction style did not affect the SLTs' evaluations of staff members. This result was not expected since several communication training approaches and studies (eg. Forster & Iacono 2008; Hostyn & Maes 2009; Nind & Hewett 2005; McNaughton & Light 1989) have emphasised that guiding staff members to give time to the individuals to initiate is essential when instructing staff members to promote the communication skills of individuals with PMLD. However, the interaction situation affects the staff members' communication strategies (Purcell et al. 2000). Most of the staff members portrayed in the assessed videos were engaged in instructional situations; for example, the staff members helped the clients put on their shoes or wash themselves. In these situations, the staff members must initiate frequently for the situation to progress. Thus, the SLTs possibly noted the importance of meeting situational demands in their assessments.

Use of non-verbal communication acts

The staff members' use of non-verbal communication acts did not statistically correlate with the SLTs' assessments, even though both SLTs and interviewed staff members men-

tioned communicating clearly as an important strategy with PMLD individuals. Several studies have noted that staff members have difficulties estimating the clients' levels of understanding; thus they use overly complex language and fail to use non-verbal acts along with their speech (eg., Bradshaw 2001; Healy & Noonan Walsh 2007). Nonetheless, individuals with PMLD have unique communicative needs and require individually tailored strategies (Grove et al. 2000). Thus, the ways staff members express themselves need to be gauged in terms that are most likely to benefit each individual served (Healy & Noonan Walsh 2007). This was an idea the interviewed staff members had also realised.

Interpreting the individuals' communication acts

In their interviews staff members mentioned one additional strategy as important for their own personal development – one that the SLTs did not mention during their group session. During the guidance period the interviewed staff members had made it their new priority to try to understand the individuals' communications. The dialogue between their colleagues had been an especially important factor for interpreting the clients' communication acts. Creating understanding between individuals with PMLD and staff members requires that staff interpret the verbal and non-verbal expressions of their clients (von Tetzchner & Jensen, 1999). However, making the right interpretation can be difficult (Wilder et al. 2004). Two issues can make these interpretations easier; if the staff member knows the individual very well, or if there are several staff members involved in making the interpretations (Ware 2004). Thus, the practice of staff members sharing knowledge about an individual's different ways of communication gives the PMLD individual a better chance of being understood accurately.

Thinking habits

In addition to communication strategies, both SLTs and staff members mentioned thinking habits as being important when communicating with individuals with PMLD.

Realising individuals' communication skills

SLTs and three of the interviewed staff members both pointed out that skilful interaction partners believe the clients want to communicate. The skilful partners also accepted that the individuals have thoughts about their daily life. Bigby et al. (2009) noted that staff members do not value the possibility that the PMLD individuals can make choices since they do not seem to possess the usual abilities of communicating their choices. Therefore, it seems that if staff members are better able to interpret the individuals' expressions, the issue of choice-making becomes relevant. However, this requires believing that such individuals can and do attempt to express their views (Dennis 2002; von Tetzchner & Jensen 1999). The staff members felt that they had become more successful at interpreting the communication acts of the individuals with PMLD. This seemed to give the staff members confidence in perceiving that their clients do try to communicate

and thus can make choices, and they should be given opportunities to choose their daily activities.

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Prioritizing communication as the essence of work

The staff members also mentioned two additional thinking habits which were essential for their personal development as communication partners. Two of the interviewed staff members mentioned that they had started to create communication situations for all activities they shared with the individuals who have PMLD. Three of the staff members had additionally realised that these moments of mutual sharing were as productive work moments as were completing tasks. Staff members usually do not prioritize tasks related to social inclusion and communication during their work day (McConkey & Collins 2010; Foreman et al. 2013). Here the feedback from supervisors plays also a crucial role. If the staff members receive consequences from their administrative or care tasks, as noted by Mansell and Elliot (2001), they probably will prioritize them over other tasks. Thus, if communication is a high priority of the organisational services, the staff members are more likely to attend to it. Furthermore, Hile and Walbran (1991) noted that staff members easily engage in non-work related conversations with other staff members while at their work. They offered two possible reasons for this. Firstly, with many staff members present at the same time, it is easy to have a conversation with colleagues. Secondly, the responsibility between the staff members is diffused and the need to work with concentration diminishes (Latane 1981). There is still another possibility: since interacting with the individuals can be difficult, staff members may choose to interact with other staff members rather than with the individual with PMLD. Therefore, if staff members feel that communication with the individuals is easy or easier, they might include these individuals in their conversations more often.

Supporting factors during and after the training (Study III)

During the interviews the staff members mentioned that supervisorial support had both enabled and hindered their participation in the OIVA training program and also in maintaining and disseminating the new skills learned during the training. Especially important was time to participate and fulfill the requirements of the training. Most supervisors had succeeded in providing time for the staff members to participate in the training. However, one staff member pointed out that the participating staff members were assigned to different shifts and not given enough time during their daily tasks to prepare for the necessary meetings. McConkey and Collins (2010) recommended that the supervisors should participate in the training in order to have a clear idea of the learning outcomes of the training and to be able to support the participating staff.

However, the staff members specified that the supervisorial support after the training had diminished. In successful training, supervisors monitor the maintenance of the new techniques (eg. Mansell et al. 2008). OIVA training did not provide for any monitoring

62 of the participating organisations. Each participating organisation's responsibility was to plan for its own maintenance of the new skills. Furthermore, at the end of the training the supervisors were asked to plan how the newly learnt strategies would be disseminated to other non-trained staff. The staff members described that the supervisors had carried out this task differently. Some supervisors had clearly left the dissemination of the new practices as the responsibility of the newly trained staff. This resulted in those staff members having a double role; they were at first learners and then disseminators of the newly learnt skills. If the trained staff members are a minority in the organisation, it is difficult for them to influence the non-trained majority. If a minority wants to change the practices of the majority, they need to be consistent and persistent with the information they provide (Moscovici 1980). They also have to be able to discuss the new work practices openly, without being perceived as diverging too much from the majority's practices (Turner 1991). This is quite a major responsibility for an ordinary staff member, and the newly trained staff should also be trained to spread the new skills to the rest of the staff. Jones et al. (2001) trained supervisors to disseminate the new skills to the staff members and found that most of the supervisors were unable to do this. If this is a difficult task for the supervisors, it certainly should not be the responsibility of the ordinary staff members. Therefore, it seems essential that supervisors participate in the training alongside with staff (McConkey & Collins 2010).

Overview and concluding remarks about the findings

The aim of this thesis was to explore which issues affect the delivery of indirect speech and language therapy for individuals with PMLD, especially when SLTs guide staff members to interact successfully with individuals who have PMLD. This study utilised Bronfenbrenner's Ecological Systems Theory (1979; 1994) when approaching these questions. Thus, the delivery of indirect therapy was examined both in the level of the microsystem (the interaction between staff members and individuals with PMLD) and the exosystem (how the organisational system affects to these interactions). Both staff members' and SLTs views were explored in this study to gain a comprehensive picture of these issues.

The results of this study, as discussed above, highlight three important issues. Firstly (1), the question of what communication strategies should be taught to the staff members remains unclear. Even though it was not entirely unexpected (eg. Carter & Iacono 2002), but a worrying finding was that the SLTs in this study had contrasting views about which interaction strategies should be used in different situations. Therefore, the results imply that the SLTs do not have similar standards for what constitutes successful interaction, even though they are expected to give advice to staff members about how to communicate successfully with individuals who have PMLD. Secondly (2), as argued by Ager and O'May (2002), it seems evident that the staff members should be enabled to analyze their thinking habits during the indirect therapy. Both staff members and SLTs mentioned thinking habits when discussing the traits of a skilful interaction partner for

individuals with PMLD. Moreover, the change in the staff members communication practices seemed to be closely related to such newly discovered thinking habits, since the changes in thinking were clearly reflected in the staff members' subsequent practices. Thirdly (3), the staff members interviewed for this study felt that their organisation influenced their ability to implement what they had learned. Thus, for any change to be effective, the whole organisation should be committed to the improvements sought by staff members, as related both to communication practices and the typical assumptions involved in those practices. As many authors have noted (eg. Cullen 1999; Clement & Bigby 2009), whether there is a permanent change in staff members' behaviours comes down to whether there is appropriate organisational change: whether the organisation is willing to focus on the selected issues over a long period of time, perhaps for years; and whether the organisation has organized support systems to maintain the benefits of the training.

5.2. CRITICAL APPRAISAL OF THE STUDY

The aim of this study was to understand indirect speech therapy from an ecological perspective: how the microsystem (interaction between staff members and their clients who have PMLD) and the exosystem of interaction (the surrounding organisation) affect the employment of indirect therapy. The research questions covered a wide spectrum of ideas and therefore exploring each idea thoroughly was not possible. However, since the aim of this thesis was to investigate indirect speech and language therapy from the ecological point of view, including different ideas was considered essential to receive a holistic picture of the issues at hand.

5.2.1. Subjects

SLTs of the group situations

The number of SLTs who participated in the group situation was small; this hinders the statistical analysis and lowers the generalizability of the findings. Therefore, more research with a bigger sample should be conducted to confirm the findings. On the other hand, according to the Finnish Association of Speech Therapists, out of approximately one thousand certified SLTs, only twenty have reported providing disability services. Thus, the number of candidates for this study was limited from the start.

Interviewed staff members

The interviewing of staff members was conducted by those who were directly involved with the training, and the sampling was opportunistic. However, since only 31 staff members completed OIVA training, the sample size was already small. Therefore, it

was considered important to find those staff members who were capable of describing their own and their communities' stories of improvement to gain as much information as possible about the staff members' experiences during OIVA training. Furthermore, since only six staff members were interviewed, it cannot be claimed that all of the staff members who participated in the training thought similarly.

5.2.2. Methodological issues

The use of mixed-methods approach can be considered as a limitation and also a strength of this study. Mixing methods can build a comprehensive picture of the issues at stake (Glogowska 2011). Health and social interventions are complex and if the outcomes are oversimplified many questions can be left unanswered. Therefore, mixed-methods can provide a more realistic and then also useful picture of how things work. However, the mixed-methods approach can be problematic especially when assessing the quality of research, since there are no straightforward criteria to judge them.

SLTs' group situation

The SLTs' group situation involved some caveats that need to be mentioned. Firstly, the videos selected for the analysis varied in their length and content. Each of the clients had different additional disabilities, such as hearing losses or visual problems. Furthermore, the videos portrayed both instructional and conversational situations and the context of the situations affects the staff members' interaction strategies (Klippi 2005). However, SLTs typically work with several client groups, and they also must make clinical judgments based on limited information. The SLTs in this study mentioned that they felt the task in the SLTs group situation was difficult; if a similar research protocol is used in the future, some background knowledge about the individuals and the staff members might be helpful.

Secondly, quantitative analysis does not adequately capture the complexity of an interaction, and the measures presented here are just a few aspects of what is considered skilful interaction in other studies. Furthermore, the SLTs of this study might have also evaluated traits not selected for the analysis here (for example Forster & Iacono 2008). Three communication styles were analysed: non-verbal communication, sensitivity and facilitative interaction style. However, the quantitative analysis of this study did not include the context of the situation in the analysis, even though this study had its' roots also in the studies concerning the pragmatics of language where context is seen to affect all interactions (Klippi 2005). It might have been beneficial to investigate only conversational situations; this would have eliminated the variability of the context. Furthermore, this study used oversimplified measures when analysing the interaction. For example, sensitivity was measured by counting only the initiations, even though it is acknowledged that sensitivity is a far more complex trait. Nonetheless, these measures were selected on the basis of previous studies (McConkey et al. 1999) and the results gave a

rough estimate about which interaction strategies the staff members used. In the future it would be important to scrutinize interaction both using micro- (such as conversation analysis) and macrolevel (as used here) methods to receive a holistic picture of the interaction.

Interviews

The qualitative method used for analysing the interviews does not claim to be objective, although the aim was to overcome any personal bias by discussing the interpretation of the data as described in the methods chapter.

5.3. CLINICAL IMPLICATIONS

SLTs need guidelines of a skilful interaction partner

This study showed that Finnish SLTs have varying standards about what is considered skilful communication between staff members and clients with PMLD. The Finnish healthcare system provides speech and language therapy services for such individuals through private SLTs working with the individuals' social networks. The SLTs working in hospitals or disability services recognise the need for therapy and then refer the clients to the private SLTs who then produce the actual rehabilitation at the clients' homes, day care facilities, schools or residential units. This has been seen as a good practice since the private SLTs can deliver the therapy in the clients' every day environment and thus transfer the clients' new skills to daily life. However, since there is a lack of SLTs in Finland, the referring SLTs cannot choose a certain private SLT to deliver the therapy; they have to choose the private SLT who is available at that time. This practice leads to situations where several private SLTs may visit one care unit to give advice about how the staff members can improve their interactions with the SLTs' particular clients. As noted by Purcell et al. (2000), assessing client-staff member interactions is a complex task since each client-staff member interaction is unique. There might not be a single way for dealing with each interaction situation. Thus, staff members might well profit from some diversity of input from their SLT advisors. On the other hand, this variability might also be confusing to the staff members if they work with several SLTs, each giving different advice on how to act in various situations.

Furthermore, the results presented here stress that during indirect therapy the staff members should be given opportunities to explore the assumptions that underlie the services they perform. Addressing the staff members' ideas about communication helps staff members to understand why different strategies should be used with the clients. It also clarifies for staff what is essential in their work: the social inclusion of the clients with PMLD in their community. However, the findings of this study seem to indicate that SLTs should also pay attention to the thinking habits they hold. On the basis of the

66 results presented here it seems that the SLTs do not seem to even agree about what they should agree on when discussing about communication. Communication can be defined with different terms: through linguistic performance (Chomsky 1965) (eg. words, grammar etc.) or through pragmatics (Klippi 2005) (eg. context) and also from information-processing (eg. Shannon & Weaver 1949) or dialogical (eg. Shotter 1993; 1998) perspective. None of these are right or wrong. Therefore, there seems to be a need for SLTs to discuss how they view communicative interactions and which aspects should be given priority when advice is provided to the staff members. Perhaps an assessment tool would be beneficial which would chart the staff members' interaction skills, since an evaluation tool and training in its use usually improves the reliability of the SLTs' professional judgement (Carter & Iacono 2002). Evidently, the SLTs also need further training to be able to perform this multifaceted task.

SLTs need to involve the staff members' supervisors in the indirect therapy

The findings of this study underlines that the staff members need the organisation and the supervisors to support them during the indirect speech and language period. More permanent changes in the staff members' interaction habits would require the SLT being part of the organisation for supporting the staff members in long term. In Finland there are some state-funded special schools and day care facilities for individuals with PMLD that also have positions for SLTs. Only a few of the organisations which serve especially adult clients with PMLD have their own SLTs to take care of the rehabilitation services of the clients. However, since most of the clients with PMLD receive their speech and language therapy interventions through private practitioners, it might be impossible to change the whole service system. Thus, if there are several clients requiring indirect therapy in one particular care unit, preferably only one private SLT should attend to these clients. This approach has been utilised by Espoo Disability Services. There, if possible, one private SLT is assigned to one school or day care Centre. Even though the SLT is not employed by that organisation, the SLT still has an opportunity to get to know the staff members in detail over the long-term and to work as part of that particular community. Then, the SLT can to influence also the supervisory processes in that particular care unit.

5.4. FUTURE PERSPECTIVES

The results and discussion presented in this thesis warrant the need for future considerations.

This thesis highlights the complexity of providing indirect speech and language therapy. Indirect therapy requires experience interacting with the individuals who have PMLD. It also demands relational skills and understanding of different staff training methods (Graves, 2007). This thesis used Bronfenbrenner's (1979; 1994) Ecological Systems Theory as its starting point. The theory divides the ecological system into different layers which all have an affect on human development. This thesis included both

the microsystem (interaction between the staff members and their clients) and exosystem (organisation surrounding staff members and their clients) in its analysis. However, as also discussed by Verdonshot et al. (2009), more analysis is needed from the organisational and even the societal standpoint about how to provide indirect speech therapy. Then, maybe a more holistic picture of the questions at hand could be found. Therefore, in the future, research and development projects (such as OIVA training) utilizing the ecological view will be needed to deliver evidence-based indirect speech and language therapy.

Additionally, further research and discussion is essential for the SLTs to reach common terminology and a consensus regarding skilful communication. Interacting with individuals with PMLD is a complex task. It requires advanced communication skills and even the most experienced SLT or staff member can fail in establishing effective interaction (Hostyn & Maes 2009). As suggested in the previous chapter, possibly an assessment tool charting the staff members' interaction skills could benefit SLTs when they plan indirect speech and language therapy. This tool would give a starting point for addressing this complex task.

Looked at in depth, the special problem faced when the SLTs offer professional advice to staff members is the two levels of professional practice at work: the strategies of staff members and the expertise of SLTs. A troublesome assumption here is that the former are somehow in a better theoretical position as regards effective practice. According to the changes in the philosophy of care KELA (2010) has also suggested using goal-setting and therapy methods which promote *shared expertise* between the SLTs, clients and their carers. Thus, the client and the carers know best what is needed from indirect therapy. More research is needed to explore the strategies that promote this shared expertise when delivering the indirect speech and language therapy. Then, the issue of the two levels of professional practice becomes irrelevant. Both staff members and SLTs work together towards the inclusion of the individuals with PMLD.

5.5. FINAL CONCLUSIONS

The aim of this study was to explore the delivery of indirect speech and language therapy. This study used Bronfenbrenner's Ecological Systems Theory (1979; 1994) as its starting point; thus the interactions between staff and individuals with PMLD were explored from the ecological point of view; in their natural social and organizational contexts. This study concludes that delivering indirect speech and language therapy to individuals with PMLD is a complex professional task. The SLTs providing this therapy need more agreement about which interaction strategies are most beneficial for interactions with individuals who have PMLD and also how thinking habits affect interactions. They also need understanding of the organisational factors which promote the staff members to participate to indirect therapy and to use and maintain the newly learnt communication skills.

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